Arithmet[illegible]

AND

WRIT[illegible]

A MISC[illegible]

Arithmetical and [illegible]

Containing all the [illegible]
of Arithmetick [illegible]
and [illegible]
[illegible]

Variety of [illegible]

[illegible] for H[illegible]

TO THE READER,

Courteous Reader,

THE Subject of this *Enchiridion* of Miscellanies is Arithmetical, They were the Remains of that Famous and Learned Arithmetician and Eminent Lawyer *Edmund Wingate* Esq; who had framed a plain and easie way of Arithmetick, fitted for the capacity of all young Clerks that would be industrious

in the Knowledge of those Arts, and is now made so Practicable for a General use, that any (though of mean capacities) may easily find the use thereof. Not only by the ordinary Rules of Arithmetick, but also accommodated with fit and apt Tables Calculated for many uses; By which Tables themselves (with the help of Addition) the most difficult Questions concerning the valuation of Lease or Annuities, or Simple Interest

tereſt and of *Common Commerce* and *Trade*, are reſolved and illuſtrated by plain examples already computed to your hand.

And becauſe in Clarkſhip there will be daily uſe of theſe Rules, I have thought it very convenient to expoſe this as an expedient to thoſe Clerks who have furniſhed themſelves with all ſorts of Preſidents for conveyancing, and other Inſtruments now in uſe, for herein you will find the juſt value of

any

any Lease either in Possession or Reversion, the value of money at 6 or 8 *per Cent.* the measuring of *Timber*, *Glass*, *Pavement*, *Brick-work*; as also the use of a Gauging-Rod, which was invented and practised by the same Author, and there are divers other Tables and things in this Tract, which are of daily use, which I need not here make recital of, but rather commend them to thy Practice: And for the better compleating

of

of this Manual, there is added a useful Copy-Book made and invented by Mr. *Cocker*, for the better attaining of the most practical Hands now in *Use*; All which I leave to thy kind acceptation, *Farewel.*

Since

Advertisement.

Since the former Edition of this Treatise, there have come to my Hands several Papers of Mr. Wingates *which he in his life time had communicated to some of his (acquaintance from whom I have obtained them,) as namely some Recreative Rules in* Arithmetick, *a short Treatise of* Decimal Arithmetick, Tables *in* Commerce *and* Trade, *The* Assize *of* Bread; *short and plain* Rules *for the* Measuring *and Casting up of any Piece or Parcel of* Land; *and Lastly, The Description and Use of a* Universal Almanack: *All which together with the former, I commend to thy friendly Acceptance; Bidding thee heartily*

Farewel.

THE CLERKS TVTOR FOR ARITHMETICK.

TO pass by (at present) the manners of *Numbering* used by the *Ancients*, as by the *Grecians*, *Romans*, &c. I shall first intreat of those now most in use with us, at this day: Not omitting (afterwards) to give you a sight of those fore-mentioned, because sometimes they may be found in Ancient *Records*, *Deeds* and *Evidences*, and are in some of

His Majesties Courts of *England* still in use, and so the knowledge of them may be assistant to the *Young* CLERK in his Practice. The most common way now in use to express the value of *Numbers*, is by the *Arabick* Notes or Characters, called by them *Ziphers*, by the Hebrews *Sephers*, and by us *Cyphers*.

There are *Ten* of them in *Number*, thus *Named* and *Charactred*.

One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Cipher
1	2	3	4	5	6	7	8	9	0

These are their *Names* and *Characters* according to our manner of *Placing* and *Reading* of them, but the Way of *Placing* these *Characters* (to be Read according to their *Values*, when divers of them are placed together) is from the *Right* hand to the left, after the manner of the *Hebrews* in their *Writings*.

For the *Progression* of these *Figures*, *Ciphers*, or *Characters*, it is *Dicimal*, or by *Tens*, for

for every figure ſtanding to the *Left* hand is increaſed *ten* times the *value* of that figure which ſtands to the *Right* of it.

Thus if one ſingle figure ſtand by it ſelf, it ſignifies ſimply it ſelf, as 5 ſtanding alone ſignifies onely *Five*, the figure 4 only *Four*, &c.

But if a *Cypher* be ſet to any of the Nine ſingle figures (to the right hand of it) it increaſeth that figure to ten times his value, as a *Cypher* ſet to the right hand of 5, thus (50) maketh it *Fifty*, being ſet to 4, thus (40) it maketh the four, *Forty*: 6, thus (60) *Sixty*.

And if any two figures be placed together, that figure which ſtandeth to the *Right* hand, ſignifies only it ſelf, without any augmentation, but that figure of the two) which ſtandeth to the *Left* hand, ſignifieth *Ten* times its own value, and muſt be ſo expreſſed.

Thus, theſe two figures, 54. ſtanding together. The 4 to the *right* hand, ſignifieth only *Four*, but the 5, which ſtandeth to the *Left* hand ſignifieth ten times 5, that is *Fifty*, and muſt be ſo expreſſed, And both the figures together muſt be thus Read, *Fifty four*,

63 Must be Read Sixty Three.
81 Eighty One
97 Ninety Seven.
16 Sixteen.

Again, If three figures stand together, that towards the *Right* hand, signifies only its self; The *Middlemost* ten times its self: as before, and the third (that to the *Left* hand) One hundred times its self.

Thus, these three figures 7, 6, 3, standing together. The 3 signifies only *Three*, the 6 *Sixty*, and the 7 *Seven Hundred*, and must be so Read, and Expressed, *Seven Hundred Sixty Three*, And these Numbers.

9 8 7 Must be Read *Nine Hundred Eighty Seven.*
6 5 4 *Six Hundred fifty four.*
3 2 1 *Three Hundred Twenty One.*

And thus much for the Expressing or Reading of Numbers consisting of three signes or Places, Which may Properly be called a *Period*. For he that can number three

three figures may conſequently number as many as he pleaſes, and give unto them what appellation he will.

I ſhall here add a ſhort Table conſiſting of three *Periods*, the firſt of *Unites*, the ſecond of *Thouſands*, and the third of *Millions*.

III Period			II Period			I Period		
Millions.			*Thouſands.*			*Unites.*		
Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One
7	6	8	3	5	6	2	0	4

This Table Conſiſting of three *Periods*, hath under the firſt Period this Number 204,

Or, *Two hundred and four Unites.*
Under the Second Period this 356,
Or, *Three hundred fifty Six thouſands*;
Under the Third period this 768,

Or, *Seven Hundred Sixty Eight Millions,*

And so the three *Periods* of Numbers standing together thus,

768. 356. 204.

Are thus to be red,

Seven Hundred Sixty Eight, Millions,
Three Hundred fifty Six, Thousand,
Two Hundred and four.

And according to this *Example* may any other Number of a like number of *Periods* be Read. And if any desire to add more *Periods*, they may attribute to them what appellations they please, as I before have intimated: But these may suffice.

The

The Way of Numbering in Use among the *GRECIANS*.

UNITES.

Α α	Alpha	1
Β β	Beta	2
Γ γ ʃ	Gamma	3
Δ δ	Delta	4
Ε ε	Epsilon	5
ϛ	Sigmatau	6
Ζ ζ	Zeta	7
Η η	Eta	8
Θ θ ϑ	Theta	9

TENS.

Ι ι	Iota	10
Κ κ	Capra	20
Λ λ	Lambda	30
Μ μ	Mi	40
Ν ν	Ni	50
Ξ ξ	Xi	60
Ο ο	Omicron	70
Π π	Pi	80
ϟ	Zigma	90

HUNDREDS.

Ρ ρ	Rho	100
Σ ς σ	Sigma	200
Τ τ ˥	Tau	300
Υ υ	Upsilon	400
Φ φ	Phi	500
Χ χ	Chi	600
Ψ ψ	Psi	700
Ω ω	Omega	800
ϡ	De	900

THOUSANDS.

α,	1000
β,	2000
γ,	3000
δ,	4000
ε,	5000
ς,	6000
ζ,	7000

And so in others, As 1669, αχξθ.

The

The Romans or Latines way of Numbering.

One	I	1
Five	V	5
Ten	X	10
Fifty	L	50
One hundred	C	100
Five hundred	IↃ	500
One thousand	CIↃ	1000
Five thousand	IↃↃ	5000
Ten thousand	CCIↃↃ	10000
Fifty thousand	IↃↃↃ	50000
One hundred thousand	CCCIↃↃↃ	100000

And so any, As,
1669. CIↃIↃC LXIX

Addition.

Addition.

ADdition is of two kindes, *viz.* 1. *Simple*, and 2. *Compounded*.

1. *Simple Addition*, Is the bringing of two, or more numbers; of the same *Name Kind* or *Thing*, as of all *Years*, all *Men*, all *Miles*, all *Pounds*, all *Yards, Ells*, or the like, into one entire or *Gross Sum*, which is usually called the Sum or Total of that *Addition*.

2. *Compound Addition*, is the adding, or bringing of two, or more Sums of divers *Denominations*, or *Names* or *Things*, into one entire *Sum* or *Total*, which shall be of the same *Denominations*. As to bring divers *Sums* consisting of *Pounds*, *Shillings* and *Pence* into one entire Sum of *Pounds Shillings* and *Pence*. Or to add divers Sums consisting of *Years*, *Moneths*, and *Dayes*, into one gross Sum or *Total* consisting of the like parts.

1. The

I. *The practice of Simple Addition.*

The *Precept* for the *Adding* of Numbers of one *Name* or *Kind* together is this:

Set the Numbers to be added, orderly one under the other, that is to say, Unites, *under* Unites, Tens *under* Tens, Hundreds *under* Hundreds, *&c. And with your pen draw a Line under them; then begin with that* Row or Column *or* Rank *of figures, which is to your right hand, and at the lowermost figure thereof, and add all the figures in that Row together, setting down the sum of them under the line (if the sum be less than Ten) but if the sum exceed Ten, then set down the excess above Ten, or Tens that you find in that Row, and for every* Ten *carry a* Unite *to the next Row to your Left hand, so continuing till you come to the last Row Leftward, and then set down, not only the* Excess *above the* Tens, *but the number of the* Tens *also, and then the* Sum *of figures standing under the line, shall be the* Sum *or* Total *of all the other sums, be they two or more.* This *Precept* shall be made easie by *Examples*, and those *Examples* shall be by the Resolving of several easie *Questions*, which come

come under so may be comprised within the bounds of this *Rule*.

Question I.

One hath out at Interest, in the hands of Three several persons, viz. A. B. and C. *three Sums of Money*; A. *hath* 3729 *l.* B. 978 *l. and* C. 435 *l. What is the sum of money that is in all the three persons hands?*

First, set the three sums down orderly, one under the other, as you see done in the Margin, drawing a line under.

	l.
A — — —	3729
B — — —	978
C — — —	435
Total — — —	5142

Secondly, Begin with the first row of figures towards the Right hand, and add them together in this manner, saying, 5 and 8 is 13, and 9 is 22, this number consisting of two Tens, and two over, set the 2 under the line, and carry the two Tens to next Row, Saying, 2 which I carried, and 3 is 5, and 7 is 12, and 2 is 14, set down the 4, and carry the one ten to the next Row, saying, 1 which I carried

carried and 4 is 5, and 9 is 14, and 7 is 21, set down 1, and carry the two Tens to the last Row, saying, 2 which I carryed and 3 is 5, which set under the line, so is your Addition ended, and the *Sum* or *Total* of this Money out is 5142 *l*?

Quest. 2.

One let a Lease of a House for 29 years, to commence the 29th. of September 1668, In what year of our Lord will that Lease be expired.

To the year of our Lord 1668, add 29, the Sum will be 1697, and upon the 29th. of *September* in that year, will the lease be Expired.

September 29th.——	1668
Years———— ——	29

The Lease terminates Sep. 29th. 1697.

When Large sums of Money are lent upon sudden occasions, and for short times, the Interest for a day or two is considerable, wherefore take this.

Quest.

Quest. 3.

How many dayes are there from the 4th. *of April to the* 17th. *of August both the dayes being included?*

Set the Names of the ſeveral Moneths down, and againſt them the number of Dayes included in each of them, Excluding the beginning Daies of the Moneth in which the Money was lent, and the Days in that Moneth after the Money was paid, ſo will the Sum ſtand as in the Margin, Then begin and add two Rows of figures, ſaying, 7 and 1 is 8, and 1 is 9, and 7 is 16, ſet down 6 and carry one Ten, ſaying, one which I carried and 1 is 2, and 3 is 5, and 3 is 8, and 3 is 11, and 2 is 13, which ſet under the line, ſo is the Addition ended, and the Total Sum of daies is 136.

	Dayes
April	27
May	31
June	30
July	31
August	17
Total	136

II. The

II. The Practice of Compound Addition.

The Precept for the *Addition* of Number of *divers Denominations, Names*, or *Things*, is this:

First, *Set all the* Numbers, *of the same Denomination, or kind, one under another, and every several Denomination in a distinct Row or Column by it self, and draw a line under them.*

Secondly, *Begin your Addition with the least (or smallest) Denomination first, and in the adding of that Row together, consider how often the next greater Denomination is contained in that lesser Denomination, and for every one, carry One to the next greater Denomination, and adding that Row together, consider how often the next greater, is contained in that, and for every time, carry One to the next, setting down the remainder under the line.* And thus must you proceed, be there never so many Denominations.

Examples will make this Plain:

Quest.

Quest, 4.

One hath owing him of four ſeveral perſons, A, B. C. *and* D. *theſe Four Sums of Money*. A. *owes* 386 l. 16 s. 3 d. B. 97 l. 18 s. 8 d. C. 61 l. 2 s. 10 d. *and* D. 12 l. 11 s 8 d. *What is the Sum of all theſe debts?*

Set the ſeveral Sums orderly one under another, as in the *Example* is done, that is, the *Pounds* under *Pounds*, the *Shillings* under *Shillings*, and the *Pence* under *Pence*, in ſo many diſtinct *Rows* or *Columns*, Then. *Pence* being the ſmalleſt, or loweſt Denomination, begin with the addition of that Row or Column firſt,

	l.	*s.*	*d.*
A Owes ——	368 ——	16 ——	3
B Owes ——	97 ——	18 ——	8
C Owes ——	61 ——	02 ——	10
D Owes ——	12 ——	11 ——	8
	540	09	5

Saying, 8 *d* and 10 *d.* is 18 *d.* and 8 *d* is 26 *d*,

26 *d.* and 3 *d.* is 29; that is 2 Shillings and 5 Pence, set the 5 *d.* under the line, and for the two shillings carry 2 to the next Row or Column of shillings.

Saying, 2 *s.* which I carryed and 11 *s.* is 13 *s.* and 2 *s.* is 15 *s.* and 18 *s.* is 33 *s.* and 16 *s.* is 49 *s.* that is 2 pound and 9 *s.* set the 9 *s.* under the line, and carry the two Pounds to the next Column of pounds.

Saying, 2 pounds which I carryed, and 2 is 4, and 1 is 5; and 7 is 12, and 8 is 20; Set a Cipher under the line, and carry 2, saying, 2 and 1 is 3, and 6 is 9, and 9 is 18 and 6 is 24, set 4 under the line and carry 2, saying 2 and 3 is 5, which set under the line. So is the Addition ended, and the sum of the four debts is, 540 *l.* —— 9 *s.* —— 5 *d.*

And according to this *Precept*, and the foregoing *Examples*, may you add divers sums together as followeth.

l.	s.	d.		l.	s.	d.	q.
3692	16	9		63	2	4	3
127	03	2		19	11	3	1
761	13	4		16	2	1	0
179	09	10		26	9	8	2
35	04	2		13	6	8	1
9	18	7		9	8	7	2
4806	05	04		150	0	09	1

The Proof of Addition.

Add all the sums together again (except the first, (which in the following Example is 479 l.—16 s.— 3 d.— 3 q.) and then add the Total of the second Addition, (which is 173 l. 1 s. 2 d. 3 q.) to the former first Total, and if the sum of them two be equal to the first Total, your work is true, otherwise not.

Or if you add the Sums downwards as you have added them upwards: it is 100, to 1, but if in the first addition you committed an error, in the second you will rectifie it.

Example

Example.

	l.	s.	d.	q.
	479	16	3	3
	92	11	2	1
	16	3	9	3
	14	6	2	3
	50	0	0	0
First Total	652	17	6	2
Second Total	173	01	2	3
Proofe	652	17	6	2

Equal to the First Total.

Substraction.

OF *Substraction* there are also two Kinds, as there were of *Addition*, For

1. The Numbers to be Substracted one from the other, may be of one and the same *Name* or *Denomination*; Or,

2. They may be of different *Kinds*, *Names* or *Denominations*,

In both which this is the Precept.

Set the Numbers to be substracted one under the other as in Addition, alwaies the greater number uppermost, and under them draw a line. Then beginning with the least Denomination first, and take the undermost out of that over it, if it be the greater, but if the number below be greater than that above, or over it, you must add One *of the next* Denomination *to it, to make it greater, and restore it again when you come to it, and the number which standeth under the Line, shall be the Difference, or Remainder of the lesser number when taken or Substracted from the greater*: As by *Example* shall be made evident.

I. Substraction of Numbers of the same Denomination.

Quest.

Question 1.

In the Year of our Lord 1597, *there was a Lease commenced the* 24*th. of* June *for* 97 *Years, how many Years of the* 97 *are expired, this Year* 1668, *and how many are there yet to come?*

The present year of our Lord	1668
The year of the Leases Commencemt.	1597
Yeares of the Lease Expired	71

First, set down the present year of our Lord 1668, it being the greater Number, and under it, the year of the Leases commencement 1597, and under them draw a Line, then beginning towards the right hand saying, take 7 out of 8 and there remains 1, set 1 under the line, then go to the next figure 9, saying, take 9 out of 6, which you cannot do, because 9 is greater than 6, therefore, to 6 you must add 1 (or 10) making it 16, and say, 9 from 6 I cannot, but 9 from 16 there remains 7,

ſet 7 under the line, and for the 1 (or 10) which you borrowed, carry 1 to the next place; ſaying, 1 which I carried and 5 is 6, from 6 above, and there remains 0, ſo is your Subſtraction ended, and the number of Years that are expired of the Leaſe are 71.

Now for the ſecond part of the Queſtion, which is, To know, *how many Years are yet to come, you muſt ſet your Numbers thus,*

The Number of Years Let	97
Years Expired	71
Years to come	26

Then ſubſtract 71 from 97, ſaying, 1 from 7 and there remains 6, ſet 6 under the line, and ſay again 7 from 9 and there remains 2, ſet 2 under the line: So is the Subſtraction ended, and the Years yet to come of the Leaſe are 26, which you may thus prove,

To	71	the Year expired
Add	26	the Years to come

They make 97 the number of Years of the Leaſe.

Queſt.

Queſt. 2.

How many Years are expired, ſince the 25th. Year of the Reign of King Henry *the third, to this Year of our Lord,* 1668 ?

IN many old *Deeds* and *Evidences*, you find, many times, them dated only by the Year of the Kings Reign in which they were granted or made, and not by the year of our Lord, To find the expiration of time ſince the date of ſuch Writings, A Table of the *beginning*, *continuance*, and *end*, of the ſeveral Kings Reigns, will be ſerviceable, and may be had in many *Almanacks*, But to our Queſtion,

Henry the 3*d*. began his Reign October the 19*th*.	1216
To which add the 25*th*. Year of his Reign,	25
The then year of our Lord was	1241
Which being ſubſtracted from the preſent year of our Lord	1668
There Remains	427

And so many Years are past since the 25th. Yeac of the Reign of King *Henry* the 3d.

Quest. 3.

A Lease was granted the first of May in the 17th. Year of the Reign of Q. Elizabeth, *for 99 Years, in what Year of our Lord will that Lease be Expired? and how many Years are yet to come?*

Queen *Elizabeth* began her Reign	1558
Add the 17*th*. Year of her Reign	17
The Year of the Leases Commencement	1575
To which add the Years granted	99
The Lease Terminates in the Year	1674
From which substract the present Year of our Lord.	1668
There remain Years	6

And so there is 6 Years of the Lease yet to come.

II. Exam-

II. Examples of Numbers of divers Denominations.

Quest. 4.

One Lent his friend 365 l. 16 *s.* 8 *d. of which he hath paid him* 279 *l.* 13 *s.* 4 *d. What is yet unpaid of the sum Lent?*

Set the numbers to be Substracted one under the other thus, the greater of them uppermost.

	l.	s.	d.
Lent	365	16	3
Paid	279	13	4
Rests to pay	86	02	11
The Proof	365	16	3

Then begin your Substraction thus, saying, 4 *d.* from 3 *d.* I cannot, wherefore add 12 *d.* to 3 *d.* and it makes 15 *d.* then say, 4 *d.* from 15 *d.* and there remains 11 *d.* set

11 *d.*

11 *d.* under the line, And for the 12 *d.* which you borrowed, carry 1 shilling to the Column of shillings, saying 1 *s.* which I carried, and 13 *s.* is 14 *s.* take 14 *s.* out of 16 *s.* and there remains 2 *s.* Set 2 *s.* under the Line. Then go to the Pounds, saying 9 from 5 I cannot, but 9 from 15 and there remains 6, set 6 under the line and carry 1: saying 1 which I carried and 7 is 8, take 8 from 6 I cannot, but 8 out of 16, and there remaines 8, set 8 under the line, and carry 1, saying 1 and 2 is 3, take 3 out of 3 and there remains 0, so is the Substraction ended, and the sum unpaid is, 86 *l.* 2 *s.* 11 *d.*

Which may be thus proved, for if you add the sum paid, and the sum to pay together, If the sum of that Addition be equal to the sum Lent, the Work is true, otherwise not, As by the foregoing Example it appeareth.

Quest. 5.

A Clyent delivered to his Attourney for the management of his Suite 30 l, of which the Attorny hath laid out as followeth,

For

	l.	s.	d.
For the Declaration	3	6	8
For examining of Witnesses	1	2	2
For Feeing of Council	12	7	0
For Searching the Records	5	8	3
For necessary Expences	1	0	0

How much hath he Expended in all, and how much remains in his Hands?

First set down the 30 *l.* and draw a line under it; then set the several Disbursments under that orderly, and draw a Line under them: Then add the disbursments together, and Substract the Sum of them from the Sum first delivered; the Remainder shall be the Money remaining: As by the Following work it is plain.

Money

	l.	s.	d.
Money Delivered	30	00	0
Several disburſments	3	06	8
	1	02	2
	12	07	0
	5	08	3
	1	00	0
Disburſed in all	23	04	1
Remains	6	15	11
The Proof	30	00	0

Multi-

Multiplication.

MUltiplication, teacheth to know how much any one Sum augmented or increased by any other Sum, doth amount unto.

In it there are three *Terms* chiefly to be considered,

1. The *Multiplicand*, Which is the number to be *Multiplied*.

2. The *Multiplyer*, Or number by which you *Multiply*:

3. The *Product*, Or the *Sum* produced by the Multiplication of the two former.

As if you would Multiply 9 by 3, that is, if you would know how much 3 times 9 would amount unto, 3 times 9 is 27. here
9 is the *Multiplicand*
3 is the *Multiplyer*, and
27 is the *Product*.

Now

Now before you can arrive to any perfection in *Multiplication*, you must readily know, by heart, how to multiply any two single figures together, as 6 times 7 is 42, or 9 times 8 is 72, or 6 times 5 is 30, or 8 times 8 is 64, and so of any others, which this Table plainly shews, and must perfectly be learned by heart.

The Multiplication Table.

1	2	3	4	5	6	7	8	9
2	4	6	8	10	12	14	16	18
3	6	9	12	15	18	21	24	27
4	8	12	16	20	24	28	32	36
5	10	15	20	25	30	35	40	45
6	12	18	24	30	36	42	48	54
7	14	21	28	35	42	49	56	63
8	16	24	32	40	48	56	64	72
9	18	27	36	45	54	63	72	81

If you are to multiply any two single figures together, this Table will help you: As suppose you would know how much 6 times 4 is, look for 6 in the first Column towards your left hand, among the greater figures, and look along that line till you come just under 4 standing among the great figures at the top of the Table, and in that Square which is against 6 in the side, and under 4 at the top of the Table, there stands 24 which is the Sum or Product of 6 Multiplied by 4. The like of any other.

The Precept for working of Multiplication.

Set the Multiplier under the Multiplicand, and under them draw a Line, Then Multiply every single figure of the Multiplier into every single figure of the Multiplicand, setting down the several Products one under another, removing every one of them one place more to the Left hand than that preceding; Then draw a line, and add the several Products all together, and the sum of them shall be the general Product of that Multiplication.

This

This Precept made Plain by Examples.

Quest. 1.

In 364 Pence how many Farthings be there?

Here 364 Pence is the *Multiplicand*, and 4 (becauſe there are 4 Farthings in one Penny) is the *Multiplyer*, which muſt be thus

364	Multiplicand
4	Multiplyer
1456	Product

The numbers being thus ſet down, begin your *Multiplication* in this manner, ſaying, 4 times 4 is 16, ſet 6 under the line, and alſo under 4, and for the Ten bear one in mind, and ſay again, 4 times 6 is 24 and 1 in mind is 25, ſet 5 under the line, and for two Tens bear two in mind, and ſay again, 4 times 3 is 12, and 2 in mind is 14, which being the laſt figure of the ſum, ſet down both the 4, and the 1, ſo will the Product be 1456, and ſo many Farthings are there in 364 Pence.

Queſt.

Quest. 2.

In 6598 Yards, how many Feet be there?

You must note that in one yard there are 3 feet, therefore set them down thus and multiply 6598 by 3.

Yards	6598	Multiplicand
Feet	3	Multiplyer
	19794	

Then begin to Multiply, saying 3 times 8 is 24, set down 4 and carry 2. Then 3 times 9 is 27 and 2 carryed is 29, set down 9 and carry 2. Then 3 times 5 is 15, and 2 in mind is 17, set down 7 and carry 1. Lastly 3 times 6 is 18 and 1 is 19, which being the last set down, and the Sum of feet in 6598 yards is 19794.

Quest. 3.

In 9657 Shillings, how many Pence and Farthings are there?

Because 12 Pence make one Shilling,

Multiply 9657 by 12. Which you must do in this manner.

9657	Multiplicand
12	Multiplyer
19314	
9657	
115884	Product

First Multiply the 9657 by 2 as is before taught, and that product is 19314. Again Multiply the same 9657 by 1, which makes but the same; saying once 7 is 7, set 7 under 1, that is one place more to the left hand; once 5 is 5, set 5 under 3, once 6 is 6, set 6 under 9. Lastly, once 9 is 9, set 9 under 1.

Draw a line under these two Products and add them together, in the same order which they stand, and you shall find the Sum of them to be 115884, and so many pence are there in 9657 Shillings.

Which Pence being multiplied by 4, giveth in the Product 463536, and so many Farthings are there in 9657 Shillings. As by the following Work appeareth.

9657

9657 Multiplicand
12 Multiplyer

19314
9657

115884 Pence
4

463536 Farthings

Quest. 4.

In 3656l.—18 s.—9 d.—3 q. how many Farthings?

First Multiply the 3656*l* by 20 (because 20 *s.* are in one *l.* and the Product will be 73120, to which add the 18 Shillings, so will the Sum of Shillings be 73138. Which Multiply by 12 (because 12 *p.* make one Shilling) and that Product will be 877656, to which add the 9 *d.* and the Sum will be 877665 Pence. Which again Multiply by 4 (because 4 Farthings are in one Peny) and the Product will be 3510660, to which add the 3 *q.* and the Sum will be 3510663, and so many Farthing are

there in 3656 *l.* 18 *s.* 9 *d.* 3 *q.* As by the following Work doth plainly appear.

l. *s.* *d.* *q.*	
3656—18—9—3	
20	
73120	
18	add
73138	Shillings
12	
146276	
73138	
877656	
9	add
877665	Pence
4	
3510660	
3	add
3510663	Farthings

Quest. 5.

In 1668 *Years, how many dayes, hours, and Minutes are there?*

In

In one Year we suppose only just 365. natural Dayes, though in reality there are odd hours and minutes, which in this place we will reject (for we intend not here to teach *Astronomy*, but *Arithmetick*,) and in every natural Day 24 hours, and in every hour 60 minutes.

Wherefore multiply the *Years* by 365 and the Product shall be *Dayes*.

Multiply the *Dayes* by 24 the Product shall be *hours*, And

Multiply the *hours* by 60, and the Product shall be *minutes*, as in the Example,

```
     1668 Years
      365
     ----
     8340
    10008
    5004
   ------
   608820 Dayes
       24
  -------
  2435280
 1217640
 --------
 14611680 Hours
       60
---------
876700800 Minutes
```


The

The Proof of Multiplication.

The best way to prove *Multiplication* is by *Division*, but that being not yet learned, and (*besides*) being more tedious, I will shew you another way more ready, which will seldom fail you.

In the Sum following, which is 56823, multiplied by 3245, and the Product being 183390735, which you may thus prove to be true.

```
   3
5  X  6     56823
   3         3245
         ---------
           284115
          227292
         113646
        170469
        ---------
        183390735
```

First make a Cross, as you see here done, then,

Secondly, Cast away all the Nines in the Multiplicand, saying, 3 and 2 is 5, and 8 is 13, cast away 9 and there remains 4. Then 4 and 6 is 10, cast away 9 there remains 1. Then 1 and 5 is 6, which being all, and less then 9, set on the right hand of the Cross.

Thirdly, In the same manner cast away all the Nines in the Multiplier, and set the

the remainder, (which you will find to be 5) on the left hand of the Cross, and Multiply these two together, saying 5 times 6 is 30, from whence 3 nines being cast away, for 3 times 9 is 27, there will remain 3, which set at the top of the Cross.

Lastly, cast away the nines in the Product, and if 3 remain your Work is right, otherwise not.

DIVISION.

DIvision is that part of *Arithmetick* which teacheth how to find out how many times one *small Sum* is contained in any *greater Sum*, and is the just contrary to *Multiplication*, and as I said before, in *Multiplication*, that the best *Proof* of it was by *Division*, so the best *Proof* of *Division* is by *Multiplication*, and therefore in the prosecution of this *Rule* I shall make use of the converse of those Examples which I used in *Multiplication*.

In Divifion there are three *things* or *Terms* chiefly to be minded.

1 The *Dividend.* Or number to be divided.

2 The *Divifor.* Or number by which you divide.

3 The *Quotient.* Or number which is produced by that Divifion.

As if it were required to Divide 27 by 3, that is, if you would know how many times 3 is contained in 27, the anfwer will be 9 times, for 3 times 9 is 27. So that here

27 Is the *Dividend*
3 Is the *Divifor*, and
9 Is the *Quotient.*

The precept of Working of Divifion.

First, *Set down the Dividend, and under it the Divifor, towards the left hand, alwayes obferving that the figure or figures of the Divifor be leffer than thofe of the Dividend under which they ftand.*

Secondly, *On the right hand of the Dividend make a Crooked line within which to fet the figures of the Quotient.*

Thirdly,

Thirdly, *Ask, or demand, how many times the Divisor may be found in those figures of the Dividend which stand over it, and set that figure in the Quotient.*

Fourthly, *Multiply the Divisor by the Quotient, and substract the Product from the Dividend, Cancelling with a dash of your Pen, all the figures both in your Divisor, and so many of them in your Dividend as exceed the Product of the Divisors being Multiplied by the Quotient.*

Fifthly, *Remove the figure or figures of your Divisor one place forward to the Right hand, and repeat this Work again, and so after, till the first figure or place of* Unity *of your Divisor comes to stand just under the first figure or place of* Unity *in the Dividend. And then is your Division ended, and the figures standing in the Crooked line are the Quotient, and if any remain upon the Division they must be alwayes less than the Divisor, and do represent such a part of it.* This shall be made plain by Examples.

Question 1.

In 1456 *Pence, how many farthings are there?*

First

First set down the Dividend, which is 1456, and under it set the Divisor 4, (for four farthings make one Peny) which 4 must not stand under 1, the first figure of the Dividend, because it is greater, but under 4, the second figure thereof, So will they stand as here you see in the Margine.

1456(
4

Secondly, Ask or demand, how often you can have 4 the Divisor, in 14 (the figures of the dividend which stand over it,) and the answer will be 3 times, wherefore set 3 in the Quotient, and Multiply 4 (the Divisor) by 3 (the Quotient) saying 3 times 4 is 12, which being substracted from 14, there rests 2, Cancell, with a dash of your Pen, both 4 the Divisor, and also 14 the Dividend, and set the 2 remaining over 4, so will the Work stand thus.

2
~~1~~~~4~~56(3
~~4~~

Thirdly, Remove the Divisor 4, one place more to the right hand, setting it under 5, then ask, how many times 4 can you have in 25, the answer will be 6 times, set 6 in the Quotient, and multiply 4 the Divisor, by 6 the Quotient, saying 6 times

4 is

4 is 24. Subſtract 24 from 25 and there remains 1, which 1 ſet over 5, cancelling the 25 and alſo the Diviſor 4, ſo will your Work ſtand thus.

$$\begin{array}{l} \;\;\cancel{2}\,1 \\ \cancel{1}\,\cancel{4}\,\cancel{5}\,6\;(36 \\ \;\;\cancel{4}\,\cancel{4} \end{array}$$

Fourthly, Remove the Diviſor 4, one place more to the right hand, ſetting it under 6, and ask, how many times can you have 4 the Diviſor, in 16, the anſwer will be 4 times, wherefore, ſet 4 in the Quotient, and Multiplying 4 the Quotient by 4 the Diviſor, the Product will be 16, Subſtract 16 from 16, and there will remain nothing, ſo is your Diviſion ended and will ſtand as in the Margine, the Quotient being 364, and ſo many Pence are there in 1456 Farthings.

$$\begin{array}{l} \;\;\cancel{2}\,\cancel{1} \\ \cancel{1}\,\cancel{4}\,\cancel{5}\,\cancel{6}\;(364 \\ \;\;\cancel{4}\,\cancel{4}\,\cancel{4} \end{array}$$

Queſt. 2.

In 19794 Feet, how many Yards are there?

Note that 3 Feet make one Yard, Wherefore 19794 is the Dividend, and 3 is the Diviſor. Then

Firſt,

Firſt, Set 3 (the Diviſor) under 19 (the firſt figures of the Dividend) and ask, how many times 3 can you have in 19, the anſwer will be 6 times, ſet 6 in the Quotient, and multiplying 6 by 3, the Product will be 18, Subſtract 18 from 19 and there will reſt 1, cancel 3 and 19, and ſet 1 over 9, ſo will your Work ſtand thus.

 1
~~1~~~~9~~794 (6
 ~~3~~

Secondly, Remove your Diviſor 3 one place more to the right hand under 7, and ask how many times 3 you may have in 17, the anſwer will be 5 times, ſet 5 in the Quotient, and multiply 3 by 5, ſaying 3 times 5 is 15, from 17, and there remains 2, Cancel 3 and 17, and ſet 2 over 7, ſo will your Work ſtand thus.

 ~~1~~ 2
~~1~~~~9~~~~7~~94 (65
 ~~3~~~~3~~

Thirdly, Remove your Diviſor one place forwarder, under 9, ask how many times 3 you can have in 29, the anſwer will be 9 times, ſet 9 in the Quotient, and multiply, 9 by 3, ſaying 9 times 3 is 27, take

take 27 out of 29 and there remains 2, Cancell 3 and 29, and set 2 over 9, so will your Work stand thus.

~~1~~ ~~2~~ 2
~~1~~ ~~9~~ ~~7~~ ~~9~~ 4 (659
~~3~~ ~~3~~ ~~3~~

Fourthly, Remove your Divisor 3, yet one place forwarder, under 4, and ask how many times 3 you may have in 24, the answer will be 8 times, set 8 in the Quotient, and say 8 times 3 is 24, which take from 24 and there remains nothing, and so your Work will stand thus,

~~1~~ ~~2~~ ~~2~~
~~1~~ ~~9~~ ~~7~~ ~~9~~ ~~4~~ (6598
~~3~~ ~~3~~ ~~3~~ ~~3~~

the Quotient being 6598, and so many yards are there in 19794 feet.

Hitherto concerning the Dividend by one single figure, and these two Questions are the Converse of the two first in Multiplication, but before I proceed farther in these Questions, I will shew you how to divide by more figures than one, and at the end of this Rule, give you the Converse of these Examples ready wrought for your own practice.

Question

Question 3.

There is a dividend to be made out of 4684 *l. amongst* 34 *Persons equally, how much must each Person have?*

Here 4684 is the Dividend, and 34 the Divisor, wherefore set them down as here you see,

4684 (
34

First ask how many times 34, can you have in 46, (or else you may aske (which is easier) how many times 3, you can have in 4) which you can have but one time, wherefore, set 1 in the Quotient, and multiply 4 by 1, saying once 4 is 4, from 6, and there remains 2, cancel 4 and 6 and set 2 over 6, then say, once 3 is 3, take 3 from 4 and there rests 1, cancel 3 and 4, and set 1 over the 4, so will the Work stand thus;

1 2
~~4~~ ~~6~~ 8 4 (1
~~3~~ ~~4~~

Se-

Secondly, remove your Divisor one place forwarder to the right hand in this manner, 34 standing under 128.

$$
\begin{array}{lllll}
1 & 2 & & & \\
\cancel{4} & \cancel{6} & 8 & 4 & (1 \\
 & \cancel{3} & \cancel{4} & 4 & \\
 & & 3 & &
\end{array}
$$

Then ask, how many times 3 you can have in 12, the answer will be 4 times, but 4 must not be set in the Quotient; for though 3 may be had four times in 12, yet 4 times 4, which is 16, cannot be taken out of 8, for you must never take the first figure of your Divisor oftner out of the Dividend, then all the rest being Multiplyed by the Quotient may be also taken. Seeing therefore that 4 times is too much, set 3 in the Quotient, and then Multiply the Divisor thereby, saying 3 times 3 is 9, from 12, and there remains 3, cancel 3 and 12, and set 3 over the 2; then say 3 times 4 is 12, from 38, there remains 26; cancel 4 and 8, and set 2 and 6 over the cancelled 38; and so will your Work stand thus:

126

$$\begin{array}{rrrrl} & & 2 & & \\ & & \cancel{3} & & \\ & \cancel{1} & \cancel{2} & 6 & \\ \cancel{4} & \cancel{6} & \cancel{8} & 4 & (13 \\ & \cancel{3} & \cancel{4} & \cancel{4} & \\ & & \cancel{3} & & \end{array}$$

Thirdly, Remove the Divisor one place more to the right hand, setting 34 under 264, so will it stand thus.

$$\begin{array}{rrrrl} & & 2 & & \\ & & \cancel{3} & & \\ & \cancel{1} & \cancel{2} & 6 & \\ \cancel{4} & \cancel{6} & \cancel{8} & 4 & (13 \\ & \cancel{3} & \cancel{4} & \cancel{4} & 4 \\ & & \cancel{3} & 3 & \end{array}$$

Then consider how many times 3 you may have in 26, which may be had 8 times, but that is too much, for though 8 times 3 which is but 24 may be had out of 26, and 2 remaining, yet 8 times 4 which is 32, cannot be had out of 24, the other figures of the Dividend, seeing therefore that 8 is too much, say 7 times, set 7 in the Quotient, and say 7 times 3 is 21, from 26, rests 5, set 5 over 6, and cancel 3, 6 and 2; then say 7 times 4 is 28, which take from 54, and there will remain 26; cancel 4 and 54, setting 2 over 5 and 6 over 4, and so will your work stand thus, and your division compleated the Quotient being 137, and 26 Remaining, so that each person must have 137 *l.* and there

vided among them, and at the Conclusion the Work will stand thus,

~~2~~(2
~~3~~ ~~5~~
~~4~~ ~~2~~ ~~6~~ (6
~~4~~ ~~6~~ ~~8~~ ~~4~~ (137
~~3~~ ~~4~~ ~~4~~ ~~4~~
~~3~~ ~~3~~

Question 4.

If 346 *lines must be written in one sheet of Paper, how many sheets must there be provided to write* 87538 *lines?*

Here 87538 is the Dividend, and 346 the Divisor,

Set them thus, and ask, how often can you have 3 in 8, say 2 times set 2 in the Quotient, then multiply your Divisor 346 by 3, saying,

87538 (
146

First, 2 times 6 is 12, from 5 I cannot, but 12 from 15 rests 3, Then 2 times 4 is 8, and 1 carried is 9, from 7 I cannot but 9 from 17, rests 8.——Again 2 times 3 is 6, and 1 carried is 7, take 7 from 8 and there remains 1. Cancel the figures both of your Divisor and

of your Dividend as you proceed in your Work and leave the remainders and you shall find it to stand as here you see

1 8 3
8 7 5 3 8 (2
3 4 6

Secondly, Remove your Divisor one place forwarder, and ask how many times 3 in 16, say 5 times, put 5 in the Quotient, and by it multiply 346, saying, 5 times 3 is 15, from 18 and there remains 3, cancel 3 and 18, and set 3 over 8, then 5 times 4 is 20, from 33 and there remains 13, cancel 4 and 33, and set 13 over 33.——Then 5 times 6 is 30, from 33 and there remains 3, cancel 6 and 33, and set 3 over 3, and a Cipher over the other 3, then will the Work stand thus, the remainer being 103.

1
3 0
1 8 3
2 5 3 3
8 7 5 3 8 (25
3 4 6 6
3 4

Thirdly, Remove the Divisor yet one place farther, and ask how many times 3 can you cel

have in 10, the anſwer will be 3 times, put 3 in the Quotient, and ſay, 3 times 3 is 9, cancel 3 and 10, and ſet 1 over the Cipher-- Then 3 times 4 is 12, out of 13 there reſts 1, cancel 4 and 13, and ſet 1 over 3 — Laſtly, ſay, 3 times 6 is 18, from 18 and the remainer is nothing, cancel 18. — So is the Diviſion ended, and the Work ſtands as followeth,

$$
\begin{array}{l}
\quad \cancel{1}\,\cancel{1} \\
\quad \cancel{3}\,\cancel{6} \\
\cancel{1}\,8\,\cancel{3}\,\cancel{1} \\
\cancel{2}\,\cancel{9}\,\cancel{3}\,\cancel{3} \\
8\,\cancel{7}\,\cancel{5}\,\cancel{3}\,8 \quad (253 \\
\cancel{3}\,\cancel{4}\,\cancel{6}\,\cancel{6}\,6 \\
\quad \cancel{3}\,\cancel{4}\,\cancel{1} \\
\quad\; \cancel{3}
\end{array}
$$

Another Example ready wrought which let be this.

Queſtion 5.

In 463536 *Farthings how many Shilings and Pence are there?*

This is the Converſe of the third Queſtion in Multiplication. Wherefore,

Firſt, divide the Farthings by 4, it makes them Pence, and

Secondly divide thoſe Pence by 12, it makes

them Shillings, as in the following Example,

```
  2   3 1(0      7 6(0 0
4 6 3 5 3 6 (1 1 5 8 8 4 (9657 s.
4 4 4 4 4 4    1 2 2 2 2
                 1 1 1
```

Question 6.

In 3510663 *Farthings, how many Pounds, Shillings, Pence and Farthings are there?*

The	Farthings' / Pence / Shillings	are tur ned into	Pence / Shillings / Pounds	by divi- ding them by	4 / 12 / 20

As in the Example,

```
                            1 2
    3 3 2 2 2 q.      1 3 1 4 0 (9d.
  3 5 1 0 6 6(3   (8 7 7 6 6 5
    4 4 4 4 4 4       1 2 2 2 2 2
                        1 1 1 1

        1 1         (1 s.       l.
        7 3 1 3 (8         (3656
        2 2 2 2  0
```

l. s d. q.

The Sum is 3656—18—9—3

An

An Example of Division ready wrought fo Practice.

~~6~~ ~~7~~ ~~9~~
~~2~~ ~~2~~ ~~1~~ ~~4~~ ~~4~~ ~~7~~
~~1~~ 8 ~~4~~ ~~3~~ ~~9~~ ~~0~~ ~~6~~ ~~3~~ ~~5~~ (56823.
~~3~~ ~~2~~ ~~4~~ ~~5~~ ~~5~~ ~~5~~ ~~5~~ ~~5~~
~~3~~ ~~2~~ ~~4~~ ~~4~~ ~~4~~ ~~4~~
~~3~~. ~~2~~ ~~2~~ ~~2~~
~~3~~ ~~3~~

Another way of Division.

THE former way of *Division is* that which is most common, and frequently taught in *Schools,* and the difficulty of it (in these three particulars) is such, that it hath deterred many from making further progress in the *Science* of *Arithmetick*; for.

1. Because the *Products* of the *Divisor* into the several figures of the *Quotient*, are not set down, but made by memory.

2. Because the *Substraction* of them begins towards the *left* hand, contrary to the way of common *Substraction.*

3. Because the *Remainder,* (when Substra-

ction

ction is made) is set over head, and not below the number (or figures) from whence it is substracted.

In consideration of these difficulties, I will shew you another way of *Division*, in which you shall set down your *divisor* but once, and not *cancel* your figures at all.

Example 1. *Let it be required to divide* 1626480, *by* 3765 *that is, Let it be demanded, how many times* 3765 *is contained in* 1626480?

In this way of *Division*, you must first set down the *Dividend* 1626480, and on the Left hand thereof the *Divisor* 3765, with a crooked Line between them, and another crooked Line on the Right-hand thereof wherein to place the *Quotient*; and make a *Prick* under that figure of the *Dividend* unto which the first figure of the *Divisor* would have extended, if it had been set down underneath the *Dividend*, (as in the common way of *Division*) then draw a *line* under the *Dividend*, and the *Sum* will stand as in this Example.

Divisor	Dividend	Quotient
3765)	1626480	(

The numbers being thus placed, the manner

ner how to work the *Rule* is taught by this following *Direction.*

1. *See how often the* Divisor *may be had in the figures of the* Dividend *which stand before the* Prick *towards the Left hand, and set that figured in the* Quotient.

2. *Multiply the* Divisor *by that Figure that is in the* Quotient, *setting the* Product *under the figures of the* Dividend *which are on the Left hand of the* Prick.

3. *Substract this* Product *from the figures of the* Dividend, *and bring it down to the next remainder:* And in this manner proceed with all the figures of your *Dividend*, till your Division be wholly ended.

Now to proceed with our former Example, The Numbers being placed as is before directed, (and as yon see them in the Margine),

3765)	1 6 2 6 4̇ 8̇ 0	(4
	1 5 0 6 0	
	1 2 0 4 8	

1. Say, how many times 3765 can I have in 16264*s*. say 4 times, and put 4 in the Quotient.

2. Multiply 3765, by 4, the Product is 15064.

3. Subſtract 15064, from 16264, and the remainder is 1204, under which draw a line.

4. Make a Prick under 8, (the next figure of the Dividend) and bring 8 down to 1204, making it 12048.

Then ſay again; How many times 3765 can you have in 12048? ſay 3 times, ſet 3 in the Quotient, and multiply 3765 the Diviſor by 3, it produceth 11295, which ſet under the Line, and ſubſtract it from 12048, the Remainder will be 753, which ſet under the Line, and make a Prick under 0, the laſt figure of the Dividend, making 753 to be 7530, and draw a Line under it.

```
3765) 1626480 (43
      ---------
       15060
       12048
       -----
       11295
        7530
       -----
```

Laſtly

Laſtly, aske, how many times 3765, can you have in 7530, ſay 2 times; ſet 2 in the Quotient, and multiply 3765 by 2, the Product is 7530, which Subſtracted from 7530 over the Line, there remains nothing: ſo is the *Diviſion* ended, and 3765 is contained in 1626480, 432 times.

```
3765) 1626480 (432
      ---------
      15060
      12048
      ---------
      11295
       7530
       ------
       7530
       0000
```

Example 2. Let it be required to divide 876854, by 234.

Set the Numbers as in the *Margine*, then ask, how many 234 can you hav. in 876? Anſwer 3 times, ſet 3 in the Quotient, and multiply 234 by 3, the Product is 702, which ſet under 876, and ſubſtract it therefrom, ſetting the Remainder 174 under 702; then draw a Line, and m. ke

```
234) 876854 (3
     ---------
      702
      1748
```

make a Prick under 8, the next figure of the Dividend, making 174 to be 1748.

Secondly, aske, how often can you have 234 in 1748, ſay 7 times; then multiply 234 by 7, it produceth 1638, which ſet under the line, and ſubſtract it from 1748, the Remainer is 110, under which draw a line, and make

234) 876854 (37

702

1748

1638

1105

a Prick under the next figure 5 bringing 5 down to 110 making it 1105.

Thirdly, aske how many times 234 you can have in 1105, anſwer 4 times; ſet 4 in the Quotient, and multiply 234 by 4, the Product will be 936, which ſet under the line, and ſubſtract it from

234) 876854 (374

702

1748

1638

1105

1105, the remainder will be 169; make a Prick under 4 (the laſt figure of the Dividend) and

and bring it down to 169, making it 1694.

Laſtly, aske how often can you have 234 in 1694? ſay 7 times: ſet 7 in the Quotient, and multiply 234 by 7, the Product is 1638 which ſet under the line, and ſubſtract it from 1694 the Remainder is 56: ſo is your Diviſion ended, and 234 is contained in 876854, 3748 times, and 56 remaining.

```
234) 876854 (3747
     702
     1748
     1638
      1105
       936
      1694
      1638
        56 Remains
```

Two other Examples of this kind of Diviſion ready wrought for Practice.

```
7904) 326587 (41          739) 94687 (128
      31616                    739
       10427                   2078
        7904                   1478
Remaind. 2523                   6007
                                5912
                                  95
```

The

The Proof of Division.

There are ſeveral wayes to prove *Diviſion*, but the beſt is by *multiplication*: For

If you multiply the *Diviſor* by the *Quotient* (or the contrary) the *Product* of that multiplication ſhall be equal to the *Dividend*.

So in the firſt *Example* of this ſecond way of *Diviſion*, 3765 (the *Diviſor*) multiplyed by 432 (the *Quotient*) the *Product* will be 1626480, equal to the *Dividend*.

And in the ſecond *Example*, 3747 (the *Quotient*) multiplyed by 234 (the *Diviſor*) the *Product* will be 876854 equal to the *Dividend*; which declares the Work to be true.

The Golden Rule.

THis Rule for its excellency is termed the *Golden Rule*. It teacheth by having of 3 numbers given, how to find a fourth, that ſhall be in Proportion to them; In which obſerve.

1. That

1. That of the 3 given numbers, two of them must be of the same *Kind*, *Name*, or *Denomination*, or reduced to be so.

2. That those two numbers which are of one *Kind*, *Name*, or *Denomination* must stand in the first and the third places of the Proportion.

3. That the other number, (by which the Question is made) be it either of the same, or of a contrary Denomination, to the other two; it must stand in the middle, or second place.

4. And observe, of what Denomination or Kind this middle or second number is of, of the same *Name*, *Kind*, or *Denomination* will the number sought for (or which answereth the Question) be of also, These things observed.

The Precept for Working of this Rule.

Place the number orderly, so that the first and the third be of the same Denomination and the second or single Denomination set in the middle. Then

Multiply the second number by the third, and divide the Product by the first number, the Quotient of that Division shall be the Answer to the Question demanded, and shall be of the same Kind,

Kind, Name, *or* Denomination *the middlemost number is of.*

Examples will make this plain.

Question I.

If 6 Yards of Cloth cost 36 shillings, what shall 252 Yards of the same Cloth cost?

In this Question you see there are three termes given, of which two of them are Yards of Cloth, therefore, they must be set in the first and third places of the Proportion. And you see that the other term is of Shillings, and that therefore must stand in the middle, or second place, and so the answer of the Question will be shilling also. Wherefore according to your Precept, set down your number thus,

Yards	s.	Yards
If 6 cost	36	what 252?

To work this.

First, Multiply the middle Terme 36, by the third term 252, and the Product will be 9072, which divide by 6 and the Quotient will

will be 1512, and so many shillings will 252 Yards of the same Cloth cost. As by the Work appeareth.

y.	s.	y.
6	36	252
		36
		1512
		756
		9072

~~3~~ ~~1~~ s.
~~9~~ ~~0~~ ~~7~~ ~~2~~ (1512
~~6~~ ~~6~~ ~~6~~ ~~6~~

Which 1512 *s.* being turned into Pounds by dividing them by 20, the Price of the 252 Yards will be 75 *l.* 12 *s.*

Question. 2.

If 252 *yards of Cloth cost* 75 *l.* —— 12 *s.*
What will 6 *yards cost?*

Set the numbers thus,

y.		l.	s.	yards.
If 252	cost	75	12	what 6?

First turn the 75*l.* 12*s.* into shillings, by multiplying

multiplying them by 20, and they make 1512 *s.* so will the number stand thus.

	y.		*s.*		*yards.*
If	252	cost	1512	what	6?

Then multiply 1512, (the second term) by 6, (the third term) the Product will be 9027, which being divided by 252 (the first term) the Quotient will be 36, and so many shillings will 6 yards cost. As by the Work appears,

```
 y.        s.        y.
252 —— 1512 ———— 6
           6
      ————————      1 5 1
          9072    9 0 7 2   (36 s.
                  2 5 2 2
                    2 5
```

Question 3.

If 36*s. Will buy* 6 *yards or pounds of any thing, what number shall* 1512*s. buy?*

Set the number thus

	s		*y.*		*s.*
If	36	buy	6	what	1512?

Mul-

Multiply 1512, by 6, the Product will be 9072, which divide by 36, and the Quotient will be 252, and so many yards may be bought for 1512 *s*. As by the Work

```
 p             y.            s.
36 ——————————— 6 ——————————— 1512
                                6
                             ————
 1 8           y.            9072
 9 0 7 2 (252
 3 6 6 6
   3 3
```

Question 4.

If 1512 *s*. *will buy* 252 *yards how many yards may I have for* 36 *s*?

Set the numbers thus

```
      s.      y.       s.
If 1512 buy 252 what 36 ?
```

Multiply 252 by 36, the Product will be 9072, which divide by 1512, the Quotient will be 6, and so many yards may be bought for 36 *s*. As by the Work.

s. y. s.
1512 —— 252 —— 36
36
———
1512
756
———
9072 ~~9~~ 0 ~~7~~ ~~2~~ (6y.
~~1~~ ~~4~~ ~~1~~ ~~2~~

I have gaged the first Question these four several wayes, by which you may see how they prove each other.

Question 5.

If 100 *l. will gain* 6 *l. Interest for a Year, what Interest shall* 7263 *l. gain in the same time?*

In this Question, though all the three terms be of the same Denomination, *viz.* Money, yet two of them are *Principal Money*, and the other *Interest Money*, and that must stand in the middle, because it is the *Interest* that is required?

Set

Set the numbers thus,

	l.	*l.*	*l.*
If	100 gain	6 what shall	7263 gain?

Multiply 7263 by 6, the Product will be 43578, which divide by 100, and that is done by cutting off the two last figures towards the right hand, then will the Quotient be 435, 78 thus, that is 435*l.* and $\frac{78}{100}$: that is 78 hundred parts of a Pound, and if you would know what that is in money do thus,

Multiply 78 by 20 (because 20*s.* make a pound and from it cut off 2 figures to the right hand, thus 78 by 20 is 1560, from which cut off two figures thus, 15 | 60, it is 15 *s.* and $\frac{60}{100}$ or 60 hundred parts of a shilling, and what that is in pence you may thus find, Multiply 60 (or rather 6) by 12, because there are 12 *d.* in a shilling, and the Product is 72, from which cut off one figure to the right hand thus 7 | 2, and it is 7*d.* and the 2 remaining is $\frac{2}{10}$. or 2 tenth parts of a peny, which is not quite a farthing.

Wherefore 7263 *l.* will gain for Interest in one Year at 6 *l.* *per cent.*

l.	*s.*	*d.*	*q.*
435 —	15 —	7 —	1 *fere.*

And thus may you make Tables of Simple Interest for any rate and for any time.

Question 6.

If 12 Clerks can write 144 sheets in one day or 12 hours, how many must be employed to write the same number of sheets in 3 hours.

Say by the Rule, if 12 Clerks require 12 hours, how many must be employed to effect the same in 3 hours?

It is here evident that the *less time* the *more hands*, therefore you must not here in this case multiply your second and third numbers together, and divide by the first, but you must multiply your first and second numbers together, and divide their Product by the third, which Quotient will answer your Question. For the Proportion here is not *Direct* but *Reciprocal*, and *less time more hands*, and this Rule is General.

If

If the third term require more than the second, you must multiply it by the greater Extream, but if it require less you must multiply it by the lesser Extream.

Therefore,

In this Question 3 hours requiring more Clerks then 12, the 12 hours must be multiplyed by the 12 Clerks, and the Question will stand thus,

Cler.	*ho.*	*ho.*
12	——12——	3
	12	
	24	
	12	
	144	

$$\begin{array}{l} \quad\;\;\cancel{2} \\ \cancel{1}\,\cancel{4}\,\cancel{4}\,(\,48 \\ \quad\;\;\cancel{3}\,\cancel{3} \end{array}$$

And 12 being multiplyed by 12 produces 144, which being divided by 3, giveth in the Quotient 48, and so many Clerks must be employed to expedite the same Writing in 3 hours.

Question 7.

If 6 Ells and a Quarter of Linnen Cloth cost

 1 *l.*

1 l. 16 s. 0 d. what shall 72 Ells and a half cost?

Set your numbers thus,

	Ells		*l. s. d.*		*Ells.*
If	$6\frac{1}{4}$.	cost	1--16--0.	what shall	$72\frac{1}{2}$

cost?

First, you must turn the 6 Ells and a quarter into quarters by multiplying them by 4, and they make 25 quarters, you must also turn your 1 *l.* 16*s.* 0*d* all into pence, by multiplying first by 20 and then by 12, as you were taught in Multiplication, and they make 432 *d.* And lastly, you must turn your 72 Ells and a half, into quarters, by multiplying 72 by 4, and it makes 288 quarters, to which add 2 Quarters for the half Ell, and multiply the second by the third, and dividing by the first they make 290, then will the numbers stand thus Then:

	quar.		*d*		*quar.*
If	25	cost	432	what	290?

$$\begin{array}{r} 432 \\ 290 \\ \hline 38880 \\ 864 \\ \hline 125280 \end{array}$$

3(5
~~1 2 5 2~~ 8 ~~0~~ (5011
~~2 5 5 5 5~~
~~2 2 2~~

Thus multiply 432 (the second number,) by 290 (the third number) the Product is 125280, and this divided by 25 (the first number) giveth in the Quotient 5211, and so many pence will 72 Ells and a half cost, which reduced into pounds and shillings as followeth, will be 20 *l.*—17 *s.*— 11 *d.*

(1 *d.*
~~2 9~~ (1 *s.* *l.*
~~5 0 1 5~~ (4 (17 (20
~~1 2 2 2~~ ~~2 2 0~~
~~1 1~~

Question 8.

If 100 *l.* *in* 12 *moneths shall gain* 6 *l.* *what shall* 625 *l.* *gain in* 36 *moneths?*

This is the Compound or Double Rule of Three, and may be wrought at one operation.

Set the numbers thus,

l.	m.	l.		l.	m.

If 100 in 12 gain 6, what shall 625 gain in 36?

First multiply 100 *l* by 12 moneths, the Product is 1200 for your Divisor.

Secondly, multiply 6 *l.* by 625 *l.* and the Product is 3750, which Product ~~divide~~ by 36 multiply moneths, and the Product of that will be 135000 for your dividend.

Thirdly, Divide 1 3 5 0 0 0 by 1200 (or 1350 by 12) and the Quotient will be 112 and $\frac{94}{79}$. remaining, that is 112*l.* and $\frac{53}{45}$. that is (6 being the half of 12) half a pound or 10*s.* So that the Interest of 625 *l.* for 36 moneths is 112 *l.* 10 *s.*

See

See the following Work.

```
 l.      m.    l.    l.     m.
100 — 12 — 6 — 625 — 36
 12                  6
 ---                ----
 200               3750
100                  36
----              -----
1200              22500
                 11250
               -------
                135000

    ~~1~~ ~~3~~ (6          l.          s.
  ~~1~~ ~~3~~ ~~5~~ ~~0~~        (112 6/12  Or 10.
  ~~1~~ ~~2~~ ~~2~~ ~~2~~
     ~~1~~ ~~1~~
```

And the like is to be done for any other Sum, any other time, and for any Rule of Interest whatsoever.

The

The Rule of *Fellowship* or *Company*.

THis Rule serveth to resolve such Questions as concern Copartnership, or Trading with a joint stock, and the resolving of a few Questions by it, will make it plain.

Question 1.

Three Farmers as A, B, *and* C, *bought a Field of Wheat growing, which cost them* 300 *l.* *of which* A *paid* 150 *l.* B 100 *l.* *and* C 50 *l.* *They sell this Wheat again for* 470 *l.* *how much must each Farmer have of this Gain in proportion to his money laid out?*

The Proportion is

As 300 *l.* the whole *Price* of the Wheat, is
to 170 *l.* the whole *Gain*,
So is every mans *Share* of Money put in
To every mans respective *Gain*:

Wherefore

Wherefore by the Rule of Three.

l. l. l.
Say I. If 300 gain 170, what shall 150 gain?

```
           150
          -----
          8500
           170   l.
    300)  25500 (85 for A's share of
          -----             ( Profit
          2400
           1500
          -----
           1500
          0000
```

Say II.

l. l. l.
If 300, gain 170, what shall 100 gain?

```
         100                      l.  s.  d.
   300)  17000 ( 56 2/3  Or     56. 13. 4.
        -------
        1500          B share of Profit
        2000
        -----
        1800
         200
```

Say

Say III.

	l.		*l.*		*l.*	
If 300, gain 170, what shall 50 gain?						
	50 *l.*			*l.*	*s.*	*d.*
300)	8500	(28 $\frac{1}{3}$	Or	28	6	8
	600			*C* share of Profit		
	2500					
	2400					
	100					

		l.		*l.*	*s.*	*d.*
A	Paid	150	By which he gained	85	00	00
B		100		56	13	04
C		50		28	06	08
In all		300		170	00	00

	l.
The money the Wheat cost is	300
The Gain made by sale is	170
The whole sum is	470

which answers the Question, and proves the Work to be true.

Question 2.

Four Merchants A, B, C, *and* D, *adventure in a Ship at Sea* 5678 *l.* A. *adventures* 2170 *l.* B 1482 *l.*

B. 1482 *l.* C 1000, *and* D 1026 *l.* *The Ship and Goods coming to some disaster, there is lost of the whole stock* 2000 *l.* *How much must each party bear in this loss?*

l.
As 5678 the whole *Adventure*
Is to 2000 *l.* the whole *Loss*,
So is each man's particular *Adventure*
To each man's particular *Loss*.

Say by the Golden Rule,

	l.		*l.*		*l.*	
(1)	If 5678,	lose	2000,	what shall	2170	lose?

```
                                   2000
                              ----------
                               4340000
5678) 4340000 (764
      -------
       39746
       36540
      -------
        34068
        24720
      -------
        22712
         2008
```

l.
764 $\frac{2008}{5678}$ *A* share of Loss.

(2)

(2) If 5678 l. Lose 2000 l. what shall 1482 l. lose?

```
                                         2000
                                      -------
                                      2964000

              5678) 2964000 (522
                    -------
                    28390
                     12500
                    -------
                    11356
                    11440
                    -------
                    11356
                       84
```

l. $522\frac{84}{5678}$ B share of Losse

(3) If 5678 l. Lose 2000 l. what shall 1000 l. lose?

```
              1000
          ---------
5678) 2000000(352 l. 1344/5678.
      -------
      17034    C. share of Loss
       29660
      -------
       28390
        12700
      -------
       11356
        1344
```

(4)

l. l. l.
(4) If 5678 Lose 2000, what shall 1026 Lose?

```
                        2000 l.
                       ------
            5678)  2052000 (361
                   -------
 361 2242/5678      17034
 D share of          34869
 Loss.               34068
                      7920
                     -----
                      5678
                      2242
```

By the Work you may see that

		l.		l.	s.	d.	q.
A.	Loses	764 2008/5678	Which is	764	7	0	3 1/2
B.		522 84/5678		522	0	3	2 1/4
C.		352 2244/5678		352	4	8	3 1/4
D		361 2242/5678		361	7	10	3 1/4
		1999 5678/5678	Which is	2000	0	0	0

So that all the Losses together make up the general Loss, which proves the work to be true.

Question

Question 3.

Three Merchants A, B, *and* C, *make a stock of* 10000 *l. of which* A. *lays in* 4000 *l. for* 3 *Moneths :* B, 3000*l. for* 6 *Moneths, and* C, 3000 *l. for* 8 *Moneths : By this they gain* 2000 *l. what share of the Gain must each Merchant have ?*

In this Question there being *Time* as well as *Money* to be considered, therefore multiply each mans *Money* by his *Time*, and add all these *Products* together, and then the Proportion will be

As the Sum of the *Products* of the *Money* and *Time*,
Is to the whole *gain* 2000 *l.*
So is each particular *Product* of *Money* and *Time*,
To each mans particular *Gain*.

Wherefore,

The share of			*Moneths*		
A	Multiplyed by his time.		3	Produceth	12000
B			6		18000
C			8		24000

The Sum of the Products — 54000

Then

Then by the *Golden Rule* Say,

l. l. l.
1. If 54000 gain 2000,
what shall 12000 gain?

2000

54000) 24000000 (444 $\frac{24000}{54000}$

216000
240000

216000
240000

216000
24000

A share 444 $\frac{24}{54}$ Or

l. s. d. q.
444—8—10—2

2. If 54000*l.* gain 2000*l.*
what shall 18000*l.* Gain?

2000

54000) 36000000 (666 $\frac{36000}{54000}$

324000
360000

324000
36000

l.
B. share 666 $\frac{36}{54}$ Or

l. s. d. q.
666 13 4 0.

3. If 54000*l.* gain 2000*l.* what shall 24000*l.* gain?

$$\begin{array}{r} 2000 \\ \hline 54000)\ 48000000\ (888\frac{48000}{54000} \\ \hline 432000 \\ 480000 \\ \hline 432000 \\ 480000 \\ \hline 432000 \\ 48000 \end{array}$$

l.
C. Share 888 $\frac{48}{54}$ Or

l.	*s.*	*d.*	*q.*
888	17	9	2

				l.	*s.*	*d.*	*q.*
Share of	A	$444\frac{24}{54}$	Or	444	8	10	2
	B	$666\frac{36}{54}$		666	13	4	0
	C	$888\frac{48}{54}$		888	17	9	2
		$1998\frac{108}{54}$ Or 2000 *l.*		2000	00	00	0

Here you see that the several Gains do make 2000 equal to the whole gain which demonstrates the Work to be true. The

The Rule of Barter or Exchange.

THis Rule teacheth, how when two *Merchants* or *others* do *exchange* one *commodity* for *another*, so to ballance the *price* of each others *Commodity* so that there may be no more Gain or Loss on the one part, then on the other: It is wholly wrought by the *Rule* of *Three*, or *Golden Rule*; and a few Examples will make it plain.

Question 1.

Two Merchants willing to Barter or Exchange their Commodities one for another, *One hath Tobacco at* 4 l. *the hundred ready money, but in Barter he will value it at* 4 l. 13 s. 4 d. *The other Merchant hath Linnen Cloth at* 13 l. *the Piece Ready money, at what rate must the second Merchant put his Cloth in Barter, so that the first Merchant do not over-reach him.*

It is evident by the *Question*, that the first Merchant upon every 4 *l.* advanceth 13 *s.* 4 *d.* Now to know how much the second Merchant must advance in *Barter* upon every 13 *l.* (the price of his Cloth per Piece) Say by the *Golden Rule*,

If 4 *l.* advance 13 *s.* 4*d.* in Barter, wha
must 13 *l.* advance?

	l.	*s.*	*d.*		*l.*
If	4 —	13 —	4 —	what —	13
	20	12			20
	80 *s.*	30			260 *s.*
	12	13			12
	160	160 *d.*			520
	8				260
	960 *d.*				3120
					160
					187200
					3120
					960)499200(520

	s.	*d.*				
12)520(43.		4 Or				
48		*l.*	*d.*	*d.*		4800
40		2	3	4		1920
36						1920
4						00000

So that the second Merchant must adva

2 *l.* 3 *s.* 4 *d.* upon every piece of Cloath to make himself a saver in Barcering with the other. So must he Rate his Linnen Cloath in Barter, at 15 *l.* 3 *s.* 4 *d.* per Piece.

This Work may be abreviated, by not reducing the 4 *l.* nor the 13 *l.* into Pence, but by working with them entirely without reducing, as in the following Work:

If 4 *l.* require 13 *s.* 4 *d.* advance, what 13 *l.*

12

30
13

160
13

480
16

4) 2080 (520 *d.*

20
80

8

00

l. *s.* 4.
2 3 4

Quest. 2.

Two Merchants Barter, one hath Linnen Cloath at 13 l. the piece Ready Money, for which in Barter he will have 15 l. 3 s. 4 d. per piece. Another Merchant hath Tobacco at 4 l. the hundred ready money, what rate must he put upon each hundred of Tobacco, to indemnifie him in this Barter.

The first Merchant advances 2 *l.* 13 *s.* 4 *d.* upon each Piece of Cloath.

What must the second advance upon each hundred of Tobacco?

The Proportion is

	l.		*l.*	*s.*	*d.*
As	13,	is to	2	13	4

So is 4 *l.* to 13 *s.* 4 *d.*

```
   l.           l. s. d.              l.
If 13 advance 2  3  4 what must 4 advance?
                20
              ------
                43 s.
                12
              ------
                90
                43
              ------
                520 d.
                 4             d.
              ------
      13 )     2080 (160
              ---------
               13
                78
              ---------
                78
                0000
```

```
 1 d.
 4(4
 1 6 0 (13 s.
 1 2 2
 1
```

So the Second Merchant must advance 13 s. 4 d. upon each hundred of Tobacco, rating it in Barter at 4 l. 13 s. 4 d.

And thus do these two *Questions* prove each other, and both of them true as by the Work appeareth.

Question 3.

Two Merchants willing to Barter, the one hath Bayes at 1 s. 2 d *per Yard which he will Barter for Canvas at* 10 d. *per yard; how much Bayes must be given for* 8900 *yards of Canvas?*

You must, first, by the *Golden Rule*, finde what 8900 yards of *Canvas* will come to at 10 *d.* per yard thus,

If 1 Yard cost 10 *d.* what 8900 Yards?

	10
1 1 2 *d.*	89000 *d.*
1 1 2 8 (8	
8 9 0 0 0 (741 | 6	
1 2 2 2 2	
1 1 1 *l* *s* *d.*	
370 16 8	

So the 8900 of Canvas will come to 370 *l.* 16 *s.* 8 *d.*

Then say again by the *Rule of Three.*

If 1 *s.* 2 *d.* buy one Yard of Bayes, what number of Yards will 370 *l.* 16 *s.* 8 *d.* buy?

	l	s.	d.
1 s. 2 d. buy 1 Yard, what	370	16	8
14 d.	20		

```
   370  16  8
    20
  ------
  7416 s.
    12
  ------
  14830
  7416
  ------
  88990 d.

14) 88990 (6356 6/14 Yards.
    -----
    84
     49
    ---
     42
      79
     ---
      70
       90
      ---
       84
        6
```

So that $6356\frac{6}{14}$ Yards of Bayes, at 14 *d.* per Yard must be given for 8900 yards of Canvas at 10 *d.* per Yard.

Question

Question 4.

Two Farmers are willing to Exchange some part of their Lands: One hath a Meadow containing 15 *Acres, which he values at* 35 s. *the Acre* p r Annum. *The other hath Arrable Land, Which he values at* 12s. *the Acre* per Annum: *how many Acres of Araable Land must he give the other for* 15 *Acres of Pasture?*

Say by the *Golden Rule*,

If 1 Acre be worth 35 *s.* what is 15 Acres worth?

Work by the Rule, and you shall find the 15 Acres to be worth 26 *l.* 5 *s.* per year.

Then say again by the *Golden Rule*,

If 12 s. will purchase 1 Acre, how many Acres will 26 *l.* 5 s. Purchase?

Wo:k by the Rule and you shall find 43 Acres, and 3 quarters of an Acre, and so many must he allow for the 15 Acres of Meadow.

See the following Work.

If

If 1 Acre be worth 15 s. what 35 Acres?

15

175

l. s. 35

Answ. 26 5 525 s.

26 5

Again,

If 12 s. will buy 1 Acre, how many Acres will 26 l. 5 s. buy?

20

12) 525 (43¾

Answ. 43¼ Acres 48

45

36

9

Questions

Questions Extraordinary.

Question 1.

There is a 100 l. *to be divided amongst* 3 *Persons, as* A, B, *and* C : A *must have a Share unknown, and* B *must have* 3 *times as much as* A ; *and* C, *must have* 7 *times as much as* B, *now What must each Person have?*

SUppose *A* have 3 *l.* then *B* must have 9 *l.* which is three times as much as *A*, and *C* must have 63 *l.* which is 7 times so much as *B* ; now adding all these three Sums together they make but 75 *l.* whereas it should be 100 *l.*

Wherefore say by the *Golden Rule*

If 75 *l.* come of my Supposition 3, what will 100 *l.* come of

l.		*l.*
75	3	100

$$\begin{array}{r} 100 \\ 3 \\ \hline 75)\ 300\ (4\ l. \\ \hline 300 \\ 000 \end{array}$$

The

The Answer is 4 *l.* which must be the Share that *A* is to have, then *A* having 4 *l.* *B*, must have 12 *l.* which is 3 times as much, and *C* 84 *l.* which is 7 times as much as *B*, and all these three numbers together do make 100 *l.* and demonstrates the Work to be true. As in the Margine.

A	4 *l.*
B	12
C	84
	100 *l.*

Question 2.

There is a Legacy of 60 *l. to be paid to* 4 *several Persons by the Executor, of which* 60 *l.* A *must have one third part;* B *one fourth part; and* C, *one fifth part: and* D, *one sixth part: how much must each Person have?*

			l.
The	*Third*	of 60 *l.* is	20
	Fourth		15
	Fifth		12
	Sixth		10
		Their Sum	57

And all these together (though it seem true) comes but to 57 *l.* whereas it should be 60 *l.* So that the Executor saves 3 *l* to himself, which is contrary to the Will of the *Donor.*

But

But to find the true portion that each Party is to have, you must observe the *Rule* following in this and the like Cases.

The Rule.

A $\frac{1}{3}$
B $\frac{1}{4}$
C $\frac{1}{5}$
D $\frac{1}{6}$

Multiply the Denominators of all the Fractions into eachother; saying, 3 *times* 4 *is* 12, *and* 5 *times* 12 *is* 60, *and* 6 *times* 60 *is* 360. *Then*

$$\text{Divide } 360 \text{ by} \begin{Bmatrix} 3 \\ 4 \\ 5 \\ 6 \end{Bmatrix} \text{ it produceth} \begin{Bmatrix} 120 \\ 90 \\ 72 \\ 60 \end{Bmatrix}$$

Their Sum 342

Then

Then say,

If 342 come of 60l. what will come of		Answer.	Or	l.	s.	d	q.
	120	$21\frac{18}{342}$		21	1	0	3
	90	$15\frac{270}{342}$		15	15	9	2
	72	$12\frac{216}{342}$		12	12	7	2
	60	$10\frac{180}{342}$		10	10	6	1
				60	00	0	0

So that the share of		will be	l.	s.	d.	q.
	A		21	01	0	3
	B		15	15	9	2
	C		12	12	7	2
	D		10	10	6	1
In all			60	00	0	0

Question 3.

A General after a Victory obtained gives 500 l. *amongst* 3 *of his Souldiers for some notable Exploit by them performed in the Engagement, which Officers were a Captain, a Lieutenant and an Ensign; to the Ensign he gives an unknown Share, to the Lieutenant* 5 *times as much as the Ensigns share, and to the*

the Captain 9 times as much as the Lieutenant what must each Officer have?

	l.
Suppose that the Ensign had	6
Then the Lieutenant must have 5 times that, namely	30
And the Captain 9 times the Lieutenant, namely	279
Which in all is	306

Whereas it should be 500 *l.*

Wherefore say by the *Rule* of *Three*,

If 306 *l.* come of my Supposition 6*l.* of what will 500*l.* come?

l.	*l.*	*l.*
306	6	500
		6
		3000

(2 4

$\cancel{3}\ \cancel{0}$ (6

$\cancel{3}\ \cancel{0}\ \cancel{0}\ \cancel{0}$ (9 $\frac{246}{306}$

$\cancel{3}\ \cancel{3}\ \cancel{0}\ \cancel{6}$

3000

2754

246

Or

l.	*s.*	*d.*	*q*
9	16	0	3

For the Ensignes Share.

Then

	l.	s.	d.	q.
Then the Ensign being	9	16	0	3
The Lieutenant must be 5 times that *viz.*	49	00	3	3
And the Captain 9 times the Lieutenant, *viz.*	441	03	7	2
In all	500	00	0	00

And every person hath his due share.

This Question may be easier resolved in this manner,

	l.
Supposing the Ensign to have but	1
then must the Lieutenant have	5
and the Captain	45
In all	51

Divide 500 by 51 and the Quotient will be 9 *l.* and $\frac{41}{51}$ parts of a *l.* which is 16 *s.* 3 *q.* as above in the other Work.

Question 4.

A Gentleman delivered into a Bankers hands a certain sum of Money, to receive for it after the rate of 6 l. in the hundred simple Interest

rest when he should call for it, At 10 *years end he calls in his money, and receives of the Banker for Principle and Interest* 500 *l. what was the Sum that the Gentleman put in?*

Suppose he put in at first 200 *l.* then that at 10 years end would be encreased to 320 *l.* but he received 500 *l.* wherefore the same Proportion that 320 hath to 200, the same must 500 have to the Sum put in.

Wherefore say by the Golden Rule,

If 320 *l.* come of my Supposition 200 *l.* what shall come of 500 *l.*?

320 — 200 — 500

500   *l.*   *s.*

320) 100000 ($312\frac{160}{320}$ Or 312 10

960

400

320

800

640

160

So

So that the Sum at first put in was 312 *l* 10 *s* which may be thus proved, by resolving of this Question in the Rule of Three.

If 100 *l.* in 10 years gain 60 *l.*
what shall 312 *l.* 10 *s.* gain?

100 *l.*		312 *l.* 10 *d.*
2		2
200		625
		60
		l. *s.*
	200)	37500(187 10
		200
		1750
		1600
		1500
		1400
		100

The answer is 187 *l.*—10 *s.*
wch. added to 312 — 10
makes 500 — 00
equal to the money he received at 10 years end.

Question 5.

One Farmer said to another, thou Rentest 200 Acres of such a Man, No said he, that I do not, but if I did Rent of him as many more Acres, and half as many more, and 2 Acres

and a half, then I should Rent of him 200 *Acres, how many Acres did he Rent?*

Suppose he Rented 40 Acres, then as many more is 80, and half as many more makes 100, and 2 and a half makes 102 $\frac{1}{2}$ whereas it should be 200, wherefore I have guessed too little by 97$\frac{1}{2}$ which set down as you see set down in the Margine, making a St. *Andrews* Cross under them.

Now suppose again, that he Rented 90 Acres then as many more makes 180 and half as many more, *viz.* 45, makes 225, and 2$\frac{1}{2}$ makes 227$\frac{1}{2}$ which is too much by 27$\frac{1}{2}$ which set under the Cross as you see in the Margine.

1 Supposit		1 Error
40 too little by		97$\frac{1}{2}$
	X	125
90 too much by		27$\frac{1}{2}$
Supposition 2		Error 2

1100
8775
—
125)9875 (79
—
875
1125
—
1125
0000

Then

Then multiply as the Cross directs, your *first Position* by your *Second Error* 40 by $27\frac{1}{2}$ and they make 1100; then multiply your *Second Position* by your *First Error*, 90 by $97\frac{1}{2}$ and they make 8775. Now because your two Suppositions were one of them *Too Much*, and the other *Two Little*, *add* these two *Products* together, and their *Sum* is 9875, for a *Dividend*: Then *add* your two *Errors* together $97\frac{1}{2}$ and $27\frac{1}{2}$, and they make 125 for your *Divisor*. Lastly, divide 9875 by 125, and the *Quotient* will be 79: And so many Acres did he Rent, which may thus be proved.

Thus	79
As many more	79
half as many more	$39\frac{1}{2}$
And	$2\frac{1}{2}$
In all	200

Question 6.

The Grandfather, Father and Son were in Company together, where they had 40 *shillings to pay. Of which the Grandfather would pay* $\frac{1}{2}$ *the Father* $\frac{1}{3}$, *and the Son* $\frac{1}{4}$ *how much must each pay?*

Grandsire $\frac{1}{2}$	
Father $\frac{1}{3}$	
Son $\frac{1}{4}$	
24	

Multiply all the Denominators into each other, as 2 times 3 is 6, and 6 times 4 is 24. Then

Divide 24 by the several Denominators, As by $\left\{\begin{matrix}2\\3\\4\end{matrix}\right\}$ it produceth $\left\{\begin{matrix}12\\8\\6\end{matrix}\right.$

Sum 26

Then by the *Golden Rule* Say,

If 26 come of 40, what will come of $\left\{\begin{matrix}12\\8\\6\end{matrix}\right\}$ Answer $\left\{\begin{matrix}18\ \frac{12}{26}\\19\ \frac{8}{26}\\9\ \frac{6}{26}\end{matrix}\right\}$ Or $\left\{\begin{matrix}18 & 5 & 2\\12 & 3 & 3\\9 & 2 & 3\end{matrix}\right.$ (s. d. q.)

$39\ \frac{26}{26}$ — 40 0 0

	l	s.	d.	q.
So that the Gransire must pay	0	18	5	2
The Father	0	12	3	3
The Son	0	09	2	3
In all	2	00	0	0

An

AN INTRODUCTION, TO THE ART of TENS, OR Decimal Arithmetick.

I Intend not in this place to make a Treatise of *Decimal Arithmetick*, I having done that already in the second Part of my *Arithmetick* at large; but to give the Reader some insight into the same Species or Parts thereof, *viz.* *Addition*, *Substraction*, *Multiplication*, and *Division*, *&c.* This kind of *Arithmetick*, of all others being the most absolute for all manner of *Mensurations*, whether of *Board*, *Glass*, *Pavements*, *Hangings*, *Wainscot*, *Land*, *&c.* or of *Timber*, *Stone*, &c. All manner of Fractions in this kind of *Arithmetick* being wholly avoided, for by this *Artifice* we suppose every *Unite* or *Integer*,

 of

of what kind soever it be, to be divided into 10, 100, or 1000 Parts, So

A *Pound* Sterling or 20*s.* A *Foot* or 12 inches A *Yard* or 3 foot An *Ell* or 3 foot 9 inches A *Rod*, *Pole* or *Perch* of 16 foot and a half.	You must suppose it to be divided into 10, 100, or 1000 parts.

And for this Purpose and for the better proceeding to what is intended in this Tract, it will be necessary to shew you,

How to reduce any Common or Vulgar Fraction into Decimal Parts.

To Effect this there is One general Rule, which is this following.

To *the Numerator of any Vulgar Fraction, add what number of Cyphers you please.* [but One if you would have the Decimal but to 10*th* parts. Two Cyphers if you would have it to the 100 part, or Three if you would have it to the 1000 part of the Integer or Unite] *and divide that number by the Denominator of the Vulgar Fraction, so shall the Figures in the Quotient, be*

a

a Decimal Part of equal value with that Vulgar Fraction:

Example 1.

Suppose I would express $\frac{5}{8}$ of a Pound Sterling in a Decimal Part or Fraction.

To the Numerator 5, add any number of Cyphers, (suppose three) then will it be 5000, divide this 5000 by 8, (the Denominator,) and the Quotient will be, 625, which is, 625 such parts of a Pound Sterling as the whole Pound is of 1000, and is thus to be expressed, ,625 parts of a Pound Sterling the point or Comma before it, declaring it to be a Part or Fraction,

Example 2.

Let it be required to express 4 *l* $\frac{3}{4}$ in Decimal parts, to the Numerator 3 adde two Cyphers, making it 300, which divide by the Denominator 4, and in the Quotient you shall have, 75 so that $\frac{3}{4}$ of a Pound is equal to, 75 hundred parts of a Pound, and 4 $\frac{3}{4}$ *l.* in a Decimal way is thus to be expressed, 4, 75 *l.* the 4 standing on the left hand of the Point or Comma, signifying the whole Pounds, and the

the ,75 on the right hand of the Prick, the Fraction or Decimal parts of a Pound.

Example 3.

In like manner let it be required to express $\frac{1}{4}$ of a foot, which is 3 inches in a Decimal part, to the numerator 1, add two or more Cyphers making it 100, which divide by 4 the Denominator, and you shall have in the Quotient ,25 which is the decimal part of $\frac{1}{4}$, for as 3 inches is one quarter of 12 inches, into which number the foot is divided; so 25 is one quarter of a 100, into which number we suppose now the Foot to be divided.

And according to this Method may Tables of *Coyns*, *Weights*, *Measures*, *Time*, &c. be made, which will ease much in *Arithmetical Calculations*, and such *Tables* I have at large in my *Arithmetick*, and shall therefore forbear to insert them here, only because we shall say something of *Measures* of several kinds in the *Tract* following, I will Insert *Two Tables*, one of *English Money*, and another of the *Standard Foot* of 12 *Inches*, both which will be very necessary, and may easily be learned by heart; and if they be forgotten they may be made by the 3 foregoing Examples.

A Table

A Table shewing the Decimal parts of a Pound Sterling, *or* 20 *Shillings; the Unite or Integer being* 2 s. *which is the tenth part of a Pound.*

d.	*q.*	*dec.pts.*	*d.*	*q.*	*dec.pts.*
0	0	00000	6	0	02500
	1	00104		1	02604
	2	00208		2	02708
	3	00312		3	02812
1	0	00416	7	0	02916
	1	00520		1	03021
	2	00624		2	03125
	3	00728		3	03229
2	0	00832	8	0	03334
	1	00936		1	03438
	2	01041		2	03542
	3	01146		3	03646
3	0	01250	9	0	03750
	1	01354		1	03854
	2	01458		2	03958
	3	01562		3	04062
4	0	01666	10	0	04166
	1	01770		1	04271
	2	01874		2	04375
	3	01978		3	04479
5	0	02083	11	0	04583
	1	02187		1	04687
	2	02291		2	04791
	3	02395		3	04895

A Table shewing the Decimal parts of a Pound Sterling, or 20 Shillings; the Unite or Integer being 2 s. which is the tenth part of a Pound.

d. q.	dec pts.	d. q.	dec. pts.
12 0	05000	18 0	07500
1	05104	1	07604
2	05208	2	07708
3	05312	3	07812
13 0	05416	19 0	07916
1	05520	1	08020
2	05624	2	08124
3	05728	3	08228
14 0	05833	20 0	08332
1	05937	1	08436
2	06041	2	08540
3	06245	3	08644
15 0	06250	21 0	08750
1	06354	1	08854
2	06458	2	08958
3	06562	3	09062
16 0	06666	22 0	09166
1	06770	1	09270
2	06874	2	09374
3	06978	3	09478
17 0	07082	23 0	09582
1	07186	1	09686
2	07290	2	09792
3	07394	3	09985

A Table shewing the Decimal parts belonging to every Inch, Half and Quarter.

F.	in.	Dec. parts	F.	in.	Dec. parts
0	0	,000	6	0	,501
	1	,021		1	,521
	2	,042		2	,542
	3	,063		3	,563
1	0	,084	7	0	,584
	1	,105		1	,605
	2	,126		2	,626
	3	,147		3	,647
2	0	,168	8	0	,667
	1	,189		1	,689
	2	,210		2	,710
	3	,231		3	,731
3	0	,250	9	0	,750
	1	,273		1	,773
	2	,294		2	,794
	3	,315		3	,815
4	0	,334	10	0	,834
	1	,354		1	,854
	2	,375		2	,874
	3	,396		3	,896
5	0	,417	11	0	,917
	1	,438		1	,938
	2	,459		2	,959
	3	,480		3	,980

The Use of the two fore-going TABLES.

THe Uses of these *TABLES* are twofold,

1. *Any fraction part of a Pound* Sterling *being desired, how to set it down in Decimal parts.*

Or,

2. *A Decimal part of a Pound* Sterling *being set down, to know the true value thereof in Coyn.*

Example of the first, Let it be required to set down 327 *l.* 0 *s.* 3 *d.* in a Decimal way, First set down 327 with a point after it, thus 327, then look in your Decimal Table for 3 *d.* and against it you shall find 0125, which is the Decimal part of 3 *d.* and this number set behind the 327, thus 327,0125, and this number is the Decimal of 327 *l.* 0 *s.* 3 *d.*

Again, Let it be required to set down 27 *l.* 18 *s.* and 6 *d.* in a Decimal way: First set down 27 *l* with a point after it, thus 27, then for the 18 *s.* set the half thereof (which is

is 9) after it thus, 27,9. then for the 6 *d.* look in the Table for 6 *d.* and against it you shall find ,025, which set under 9, as you see in the Margine; or instead of the Cypher set the 9 before, which is all one; and so will the Decimal of 27 *l.* 18 *s.* 6 *d.* stand thus, 27,925.

27,9
,025
27,925

Again thirdly, Let it be required to set down 397 *l* 13 *s.* 5 *d.* 3 *q.* in Decimal parts: First set down 379 *l.* with a point after it thus, 379, then for the 13 *s.* set down 6 for the half of it, then look in your Table for the Decimal of 1 *s.* 5 *d.* 3 *q.* which is 17 *d.* 3 *q.* and you shall find the Decimal thereof to be ,0739, which put to the former; and so will the Decimal part of 379 *l.* 13 *s.* 5 *d.* 3 *q.* be 379,6739.

379,6
0739
379,6739

Hitherto of the setting down of Decimal parts, now to find the value of a Decimal part, set down.

Example, Let 23,875 be a decimal part of

of English Coyn, and you would know the value thereof? First, 23 is 23 *l.* then the figure 8 following being doubled, is 16 *s.* and then look in your Table for ,75, against which you shall find 18 *d.* or 1 *s.* 6 *d.* so that this decimal 23,875 is in value equal to 23 *l.* 17 *s.* 6 *d.*

			l.	*s.*	*d.*	*q.*
In like manner	375,9256	be in value equal to	375	18	6	0
	70,0162		70	0	4	0
	23,425		23	8	6	0
	16,0075		16	0	1	3

* And thus may you readily find the value of any decimal part in English Coyn.

The Use of the Second Table.

THis Table hath like use with the former for any number of *Feet*, *Inches*, and *parts of Inches* may be set down thereby.

And any decimal part being set down, the quantity in *Feet* and *Inches* may be discovered thus,

Feet	*Inches*		
27	9	is in decimals thus expressed	27,75
132	7 $\frac{1}{2}$		152,626
52	1		52,084
86	0 $\frac{1}{2}$		86,042

And

And so,

				feet	inch.
These decimal parts,	93,625	do represent		93	$7\frac{1}{2}$
	18,083			18	1
	127,934			127	$11\frac{1}{4}$

The like of any other.

And so let this suffice for the use of these two Tables, both which are of excellent use.

And now I will proceed to Addition, Substraction, Multiplication, and Division in Decimals, with some other uses thereof in Mensurations of several kinds.

Addition of Decimals.

ADdition in Decimals is the same as in common Addition of whole Numbers; all that is to be observed therein, is to set your figures orderly one under another; as the whole numbers under the whole numbers, and the parts under the parts. And that it may be

 the

the better understood, I will do all my Examples in Decimals by Vulgar Arithmetick also; that their agreement may appear.

Examples in

Vulgar Arithmetick					*Decimal Arith.*
l.	*s.*	*d.*	*q.*		*l.*
472	12	6	2	The same	472,627
47	9	8	0		47,483
62	17	5	3		62,874
49	10	8	1		49,534
630	10	4	2		632,518
4627	9	2	1	The same	4627,459
3750	11	5	0		3750,571
300	00	0	0		300,000
710	19	11	3		710,999
9389	00	7	0		9389,029

	Foot	*inches*		
Adde	37	$9\frac{1}{2}$	The same	37,79
To	92	$11\frac{1}{4}$		92,94
	130	$8\frac{3}{4}$		130,73

Sub-

Substraction of Decimals.

THere is no other difference between Substraction of Decimals and Vulgar Substraction then there was before in Addition, wherefore we may proceed to Examples, without using any Preamble.

Examples

	Vulgar.				Decimal.
	l.	*s.*	*d.*	*q.*	
Lent	3769	10	5	1	3769, 522
Paid	2920	19	7	3	2920, 982
Rest	848	10	9	2	849, 540
Proof	3769	10	5	1	3769, 522

	l.	s.	d.	q.	l.
In Cash	1000	0	0	0	1000, 000
Paid out at several Payments.	362	9	3	0	362, 463
	76	12	11	1	76, 647
	100	12	9	3	100, 641
	62	5	2	1	62, 259
	78	12	9	0	78, 637
Paid in	680	12	11	1	680, 647
Rests in Cash	319	7	0	3	319, 353
Proof	1000	0	0	0	1000, 000

	Feet	inches	
From	130	8 $\frac{3}{4}$	130, 79
Substract	92	11 $\frac{1}{4}$	92, 94
Rests	37	9 $\frac{1}{2}$	37, 79
Proof	130	8 $\frac{3}{4}$	130, 73

Mul-

Multiplication of Decimals

Multiplication of Decimals differs nothing at all from Multiplication of whole Numbers, only you must be careful to make a Comma or Point, or a seperation Point between your whole Number and your Parts, and from your Product you must always cut off so many Figures, as there are Figures of parts behind the Prick or separating Line: So are all the Figures to the left hand Integers or whole Numbers, and those towards the Right hand Fractions or Parts: Examples will make it plain:

Examples,

A whole number	327
by a whole Number	27
	2289
	654
A whole Number	8829

Multiply a whole Number	708
by a Fraction or Part	,72
	1416
	4956
A Mixt Number	509,76

Multiply a Mixt Number	24,32
By a Mixt Number	2,43
	7296
	9728
	4864
A mixt Number	59,0976

	l.	*s.*	*d.*		*l.*	*s.*	*d.*
Multiply	1	19	11	by	1	19	11

If (as I have seen some attempt to do) you should Reduce the 1 *l.* 19 *s.* 11 *d.* into Pence, the number of Pence would be 479, which Multiplyed in it self would produce 229441, which is the Product in Pence, and these Pence reduced into Pounds, Shillings, and Pence, would amount unto 956 *l.* 10 *s.* 1 *d.* whereas 2 *l.* multiplyed by 2 *l.* can produce but 4 *l.* which all persons know. But let us do this Decimally.

The

l. s. d.
The Decimal of 1 19 11 is 1,9958
1,9958

159664
99790
179622
179622
19958

The Product —— 3,98321764

l. s. d.
Which is the Decimal Fraction of 3 19 8,
And so much doth 1 l. 19 s. 11 d. produce, being Multiply[illegible] it self.

Multiply 37 foot 9 inches — 37,75
By 21, 4 inches —— 21,33

11325
11325
3775
7550

The Product — 805,2075
Which is — 805 Foot 2 $\frac{1}{2}$ Inches.

Multiply 365 foot 1 inch	365,084
By 7 $\frac{1}{2}$ inches	,626

$$\begin{array}{r} 2190504 \\ 720168 \\ 2190504 \\ \hline 228,442584 \end{array}$$

The Product 228 foot 5 $\frac{1}{4}$ In.

Multiply 1 inch $\frac{3}{4}$	0,147
By 4 inches $\frac{1}{2}$	0,375

$$\begin{array}{r} 0735 \\ 1029 \\ 0441 \\ \hline ,055125 \end{array}$$

Which is 6 Inches a half and half a quarter.

Division

Division of Decimals.

AS Division in *Vulgar Arithmetick* is the most difficult of all the four Species, so it is also in *Decimals*, but yet the manner of Working is altogether the same, as in whole Numbers. The difficulty in *Division* of *Decimals* only is in knowing the true *Value* of the *Figures* in the *Quotient*, whether it be a *Whole Number* only, or a *Fraction* only, or a *Mixt Number*; for one of these it must be, and if it be a *Mixt Number*, to know between which two Figures to make your Point or separating Line. And to assist you herein, I shall give you a *General Rule*, which Examples will make plain and familiar; And this is it.

A General Rule.

The first Figure in your Quotient will alwayes be of the same Degree or Place, with that Figure or Cypher in your Dividend, which standeth over the Place of Unites in the Divisor.

Among

Among the many wayes of Divifion that are extant in feveral Books of Arithmetick, the old and common way of fetting the Divifor under the Dividend, is for this Decimal Divifion the Beft, and therefore I fhall make all my Examples by that way of Divifion.

Several Examples in Divifion to Explain the Rule, and they fhall be the Converfe to thofe in Multiplication, fo that they fhall prove each other.

1. *To divide a Mixt Number by a Fraction or Part.*

```
            1 5   1 (0
Divide    5 0 9 , 7 6 (708,
By        0,7 2   2 2
             ,7   7
```

Here in this Example, though there be no place of Unites in the Divifor, yet I do fupply the place thereof by a Cypher, which Cypher ftands under the third Figure or place of hundreds in the Dividend; which fhews that the firft Figure in your Quotient will be the third place, or place of Hundreds.

2. *To*

2 *To divide a Mixt Number by a Mixt Number.*

```
                1
            2   7   2
            0   8   3
        1   1   4   5   9
Divide  5   9 , 0   9   7   6   (2, 43
  By    2   4 , 3   2   2   2
            2   4   3   3
                2   4
```

```
                1
            2   7   4
            0   8   5
        1   1   4   7   8
Divide  5   9 , 0   9   7   6 (24, 32
        2 , 4   3   3   3   3
            2   4   4   4
                2   2
```

Here in the first of these Examples the Place of Unity in the Divisor stands under the place of Unity in the Dividend; which shews, that the first Figure in the Quotient is the place of Unity.

In

In the second Example, the Place of Unity in the Divisor, stand under the place of Tens in the Dividend, shewing that the first Figure in the Quotient must be the place of Tens.

3 *To divide a Fraction by a Fraction.*

$$
\begin{array}{lcccccccl}
 & & & \cancel{1} & \cancel{2} & & & & \\
 & & & \cancel{4} & \cancel{7} & & & & \\
 & & \cancel{1} & \cancel{1} & & \cancel{2} & & & \\
 & & \cancel{2} & \cancel{3} & \cancel{0} & & 8 & & \\
\text{Divide} & ,0 & \cancel{5} & \cancel{5} & \cancel{1} & \cancel{2} & \cancel{5} & (375 & \\
\text{By} & ,, & \cancel{1} & \cancel{4} & \cancel{7} & \cancel{7} & \cancel{3} & & \\
 & & & \cancel{1} & \cancel{4} & \cancel{7} & & & \\
 & & & & \cancel{1} & & & &
\end{array}
$$

I shall not need to give you Examples in words to explain all the Varieties, but to make the General Rule beforegoing plain and familiar, I will set down 8 Examples ready wrought, which will explain the Rule sufficiently and will contain all the Varieties that can arise in Division, and they are these, *viz.*

1 To

1. To divide a Whole Number by a Fraction.

As 345
By 0,35

```
    2             1 1
  3 6   2 4 2 3 3 (2
  1 0   5 5 5 5 4 6 (0
3 4 5, 0 0 0 0 0 0 0 (985, 71428
0, 3 5 5 5 5 5 5 5 5
    3 3 3 3 3 3 3
```

2. To divide a Fraction by a whole Number.

As ,78925
By 32

```
      2(1
    2 3 2
  1 4 1 0(3
, 7 8 9 2 5 (02466
  3 2 2 2 2
    3 3 3
```

3 To

3 To divide a Mixt Number by a Fraction.

As 45,275

By ,75

5

5 8 5(5

3 6 0 8 8

4 5, 2 7 5 0 0(0 (60,3666

,7 5 5 5 5 5 5

7 7 7 7 7

4 To divide a Fraction by a mixt Number.

As ,95

By 12,25

1

6 1

7 6

2 8 7 1

1 9 2 1 2 2

2 1 6 5 5 5 5

,9 5 0 0 0 0 0 0(0 77551

1 2,2 5 5 5 5 5

1 2 2 2 2 2

1 2 2 2

1 1

5 To

5 To divide a Fraction by a Fraction.

As ,9757500
By ,25

```
 2 4
 3 2   1
,9 7 5 7 5 0 0 (3,90300
,2 5 5 5 5 5 5
   2 2 2 2 2
```

6 To divide a Mixt Number by a Mixt Number.

As 241,75
By 4,835

```
          2
2 4 1,7 5 0 0 0 0 (50,000
  4,8 3 5
```

7 To divide a Mixt Number by a Whole Numbe .

As 345 12576
By 37

```
    1 2 2 (1
  1 3 4 7 5 2
  7 2 0 8 6 8. (2
3 4 5,1 2 5 7 6 (9,32772
  3 7 7 7 7 7 7
    3 3 3 3 3
```

8. To

To divide a Whole Number by a Mixt Number.

As 200
By 75,85

```
         5
       5 6
       6 6
     2 7 1 4
   4 3 8 4 9 4
   5 6 3 9 4 7
   6 8 4 2 6 5 6
 2 0 0, 0 0 0 0 0 0 (2,63678
   7 5, 5 5 5 5 5 5
     7 5 8 8 8 8
       7 5 5 5
         7 7
```

The Golden Rule Direct in Decimals.

THE Working of this Rule is the same as in Vulgar Arithmetick, and the Excellency will best appear by Examples.

Quest.

	l.	s.	d.
Queſt. 1. *If* 1 $\frac{3}{4}$ *yards coſt*	3	16	2
what will 71 $\frac{1}{4}$ *coſt?*			

How to turn Vulgar Fractions into Decimal Fractions is already taught, wherefore the Fractions being reduced, the Decimal Work will ſtand thus,

```
    yards,              l.                yards.
If  1,75      coſt   3,808,      what   71,25
                                         3,808
                                        ------
      1 3                                57000
      4 8                             57000
      9 1 3 3                   l.  21375
      1 0 6 8 7 2                   -----------
      2 7 1,3 2 0 0 0 (155,040     271,32000
      1,7 5 5 5 5 5 5
        1 7 7 7 7 7
          1 1 1 1
```

	l.		s.		d.		q.
Which reduced is ——	155	—	0	—	9	—	3

	l.	s.	d.	q.
Queſt. 2. *If* 71 $\frac{1}{4}$ *yards, coſt*	155	0	9	3
how many yards ſhall I buy for	3	16	2?	

The Fractions Reduced into Decimal parts will stand thus,

	l.	*yards*		*l.*
If	155,040 buy	71,25	what	3,808 buy?
		3,808		

```
      57000
     57000
    21375
    ---------
    271,32000

      32
     472
     3175
   326282
   271,32000  (1,75 yards
   155,04000
     155044
      1550
        1
```

Quest. 3. *If* 100*l.* *in* 12 *moneths gain* 6 *l.* *interest, what shal* 692 *l.* 12 *s.* 3 *d.* *gain in the same time?*

Reduce the Fractions, and the Question will stand thus,

I.

	l.	l.	l.
If	100	6	692,60125
			6
			41,55160750

l.	s.	d.
41 ——	11 ——	1

The Backer Rule of Three in Decimals.

Quest. *If when the price of Wheat is 8 s. 6 d. the Bushel, the Penny Wheat Loafe shall weigh 5 Ounces, what shall the Penny White Loafe weigh when the Price of Wheat is 6 s. 3 d. the Bushel?*

Reduce the Fractions to Decimals, they will stand thus,

s	ounc.	s
8,5 ——	5 ——	6,25
	5	
	42,5	

$$
\begin{array}{lllllll}
 & & \cancel{2} & & & & \\
 & \cancel{5} & \cancel{0} & & & & \\
 & \cancel{6} & \cancel{3} & & & & \\
\cancel{4} & \cancel{2}, & \cancel{5} & \cancel{0} & \cancel{0} & \cancel{0} & (6,80 \\
 & \cancel{6}, & \cancel{2} & \cancel{5} & \cancel{5} & \cancel{5} & \\
 & & \cancel{6} & \cancel{2} & \cancel{2} & & \\
 & & & 6. & & &
\end{array}
$$

The Compound or Double Rule of Three in Decimals.

	l.	mon.	l.
Quest. *If*	100	*in* 12 *gain*	6 *for Interest, what shall* 432 *l.* 12 *s* 3 *d.* 1 *q. gain in* 82 *dayes.*

Reduce the Fractions into Decimals and they will stand thus,

If

l. *dayes* *l.*
If 100 in 365 gain 6, 00 what shall 432,60135 *l.* gain in 82 *days?*

```
                 6
         ─────────────
    2595,60810
            82
    ──────────
     519121620
   20764864 80
   ────────────
   212839,86420

           2  (1
           1 1 2 (0
       3 1 5 4 8 1
       6 6 3 5 4 3               l.
   2 1 2 8 3 9,8 (6 4 2    (5,8312
     3 6 5 0 0, 0 0 0 0
       3 6 5 0 0 0 0
         3 6 5 5 5
           3 6 6           l. s. d. q.
             3             5  16  7  2.
```

And according to what hath been in these few Rules delivered may all other Rules in Arithmetick be performed in Decimals.

 The

The farther use of Decimal Arithmetick, in the Mensuration of Board, Glass, Pavement, Wainscot, Tileing, Land, Timber, Stone, Brick-work, &c.

All these will best appear by Examples.

1. *If a Board or Planck be 1 foot 5 inches broad, and 12 foot 6 inches long, how many foot are contained therein?*

```
   1,42
   12,6
  -----
    852
   284
  142
  -----
 17,892
```

Multiply 1,42 (which is the Decimal of 1 foot 5 inches) by 12,6 (the Decimal of 12 foot 6 inches,) the Product will be 17 892, which is 17 foot and 892 parts, which by your Table is 10 inches and 3 quarters, as you may see in the Margine.

2. *If*

2. *If a Gallery be 93 foot and 1 inch long and 37 foot 9 inches broad, how many foot is contained therein?*

Multiply 37,75 the Breadth, by 93,08 the Length, and the Product, cutting off 4 figures, will be 3513|77 that is 3513 foot, and 9 inches and a quarter, and so many foot is contained in the Floor of that Gallery. But because Flooring is measured by the square of 10 foot, which is 100 foot, there is contained in this Floor 35 Squares 0 quart. 13 foot 9¼ inches.

```
      37,75
      93,08
   --------
      30200
     11325
    33975
   --------
   35131|7700
```

3. *If a Yard Pav'd with Free stone, be 53 foot $\frac{4}{4}$ inches Broad, and 64 foot 3 inches long, how many foot of Paveing is there in that Yard?*

64,25 53,6 ——— 38550 19275 32125 ——— 3443,800	Multiply 64,25 the length, by 53,6, the breadth, that Product will be 3443 foot 9 inches and 3 quarters, which is the number of feet in that Pavement.

4. *A Room or Gallery being 132 foot 6 inches about, and it is Wainscoted 12 foot 8 inches high, how many Yards of Wainscoting is contained therein?*

132,5 12,66 ——— 7950 7950 2650 1325 ——— 1677450	Multiply 132,5 the length in feet and parts by 12,66 the height in feet and parts, the Product will be 1677145 foot: which may be turned into Yards by dividing 1677 by 9,

as

as in the Margine (for 9 square feet make one square yard) and so shall you find the Quotient to be 186 yards and 3 foot remaining; so that the Wainscot of this Room contains 186 yards 3 foot which is $\frac{1}{3}$ of a yard.

```
  7 5 (3
1 6 7 7 (186
  9 9 9
```

5. *If a Pane of Glass 1 foot 4 $\frac{1}{2}$ inches broad, and 2 foot 6 $\frac{1}{4}$ inches long, how many foot are contained therein?*

Multiply 2,54 the length, by 1,37 the breadth, the Product will be 3,479. which is 3 foot 5 inches and 3 quarters.

```
   2,54
   1,37
   ----
   1778
   762
  254
  -----
  3,4798
```

6. *If a Marble Foot-pace be 10 $\frac{1}{2}$ inches broad, and five foot 6 inches long, how many foot of Marble are therein contained?*

Multiply 5,5 the length, by ,87 the breadth, the Product is 4,78, which is 4 foot 9 $\frac{1}{4}$ inches and somewhat more.

```
   5,5
   ,87
   ---
   385
  440
  ----
  4,785
```

7. A

7 *A Barne is 82 foot 7 inches long, and the breadth of the Tileing thereof on both sides is 38 foot 6 inches, how many Square of Tileing is there in the Tileing of this Barne?*

82,58 385 ——— 41290 66064 24774 ——— 3179330	Multiply 82,58 the length, by 38,5 the breadth, the Quotient is 3179 foot, which in Squares of 100 foot is 31 Square 3 quarters and 4 foot, and so much Tileing is on the Roof of such a Barne.

According to these Rules here delivered may all kinds of Superficial Measure be measured, whether it be by the *Foot*, *Yard*, or *Square*; so I will now proceed to shew you.

How to Measure Brick-work.

BRickwork is measured by the Rod of 16 ½ foot square, and the way of measuring is after another manner then any other sort of work whatsoever; for when you have found the content thereof upon the Superficies

cies of the Wall, you must consider also the thickness of th Wall, in Bricks and half Bricks, for be the Wall thicker or thinner, it must be so reduced, tha the thickness must be brought to *One Brick and half thick.* As in Examples,

1. *If a Wall of Brick be 120 foot 6 inches long, and 15 foot 4 inches high, and 2 Bricks and a half thick, how many Rod of Brick-work* (it being reduced to the thickness of one Brick and half) *is there contained in this Wall?*

First multiply 15,33 the breadth in feet and parts by 120,5 the length in feet and parts and the Product will be 1847,265, which are the number of feet contained upon the Superficies of the Wall. Now (because the Wall is 2 Bricks and a half thick) multiply this number by 5 (which is the number of half Bricks that the Wall is in thickness) and the

15,33	$2\frac{1}{2}$
120,5	
7665	
3066	
1533	
1847,265	
5	
9236,325	
3078,778	

Product

Product will be 9236,325; Take always one 3d of this number, which will be 3078,778, and so many foot will the Wall contain, it being Reduced to the thickness of *One Brick and half*.

2 (8
2 3 5 (7 R.
3 0 7 9 (11
2 7 2 2
2 7

Now to find how many Rods are contained herein, divide the reduced feet 3078 (for you may leave out the 3 Figures beyond the separating point) by 272 (or by 272 $\frac{1}{4}$) but the quarter is unnecessary, and the Quotient will be 11 and 87 Remaining; the 11 are Compleat Rods, and the 87 are feet, of which 68 make a quarter of a Rod; wherefore divide 87 by 68, and the Qu tiant will be 1 quarter and 19 foot remaining So that this Wall Reduced to *One Brick and half thick*, will contain 11 Rod 1 Quarter and 19 foot.

(1 f.
2 (9
8 7 (1 q.
6 8

2. If

2. *If a Piece of Brick-work be 24 foot 2 inches long, 12 foot 11 inches and a half high, and 7 Bricks and a half thick, how many Rod is contained in this Work, when it is Reduced to the thickness of One Brick and half.*

Multiply 24,16 the length in feet and parts, by 12,96 the height in feet and parts, the Product will be 313,1136 which is the Content upon the Superficies of the Wall: This Product being multiplyed by 15, (the number of half Bricks that the Wall is in thickness) produceth 4696,7040 one third part of which is 1565,5680 which 1565 (for I leave out the 5680 behind the separating point,) being divided by 272, giveth in the Quotient 5 Rod and 205 remaining; which 205 being divided by 68 the number

$$
\begin{array}{r}
\left.\begin{array}{r} 24,16 \\ 12,96 \end{array}\right\} 7\tfrac{1}{2} \\
\hline
14496 \\
21744 \\
4832 \\
2416 \\
\hline
313,1136 \\
15 \\
\hline
15655680 \\
3131136 \\
\hline
4696,7040 \\
1565,5680
\end{array}
$$

of

of feet in one Quarter of a Rod) in the Quotient you shall have 3 quarters and 1 foot remaining; so that in this Piece of Brick-work there is contained (when it is reduced to a Brick and half thick) 5 Rod 3 Quarters and 1 foot.

2(1 f.
205(3 q.
68

R.	Q.	F.
5	3	1

But this Work may be somewhat abbreviated, for when you have multiplyed your length by your height, and found your first Product to be 313,1136, if you multiply this by 5, you shall produce 1565,5680, the Number of feet reduced to Brick and half, as in the Margine you may see done: which being divided by 272, and the remainder divided by 68, the Content reduced will be found to be 5 Rod, 3 quarters and 1 foot, as before.

313,1136
5
1565,5680

For if a Wall be				
	3		2	
	4½	Bricks thick,	3	It will be re-
	6	If you multi-	4	duced to the
	7½	ply the *Area*	5	thickness of
	9	found by	6	one brick and
	10½		7	half.
	12		8	

And let this suffice for the Mensuration of Brick-work.

Of

OF THE MENSURATION OF LAND.

LAND is measured by the Acre, Rod, and Pearch; and here you are to understand, that by the Statute of *Edw.* 3. That a Rod, Pole, or Pearch is to contain in length 16 foot and a half of Assise.

40 Of these Pearches in length make a Rod. And

4 Rods makes an Acre.

These are for the Measures as they are in length, but

A Perch of Land is to contain 16 foot and a half in length, and as much in breadth, that is 272 and a quarter square feet, for 16 and a half multiplyed by $16\frac{1}{2}$ produceth $272\frac{1}{4}$ Square feet.

Also

Alſo a Square Rod of Land contains 40 ſquare feet.

And an *Acre* contains 160 ſquare Pearches, which is 43560 ſquare feet.

But a Pearch being the ſmalleſt denomination that Land is meaſured by, I ſhall ſhew you how to caſt up the content of any piece of Land be it in what form ſoever, by the *Pearch* only, 160 of which do make an *Acre*.

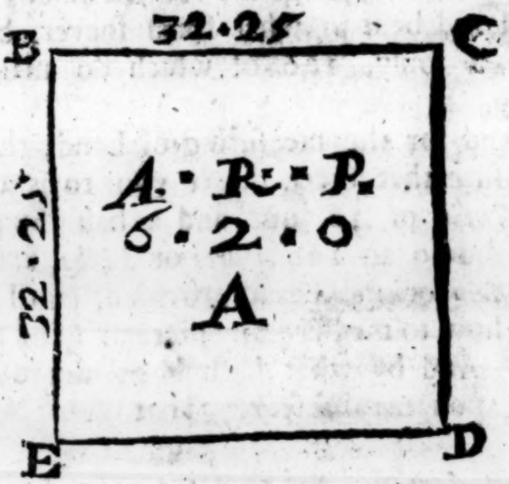
And for the meaſuring of Land, the beſt meaſure that I can direct you to is a *Pole* or *Chain* of 16 foot and a half long, divided into an 100 *Parts* or *Links*, and ſuch a *Chain* or *Pole* being provided, I will ſhew you how to meaſure any piece of Land thereby. And by what hath been already ſpoken, you may obſerve; That

An *Acre* of Land contains	160	Square Pearches
Half an *Acre*	80	
A *Rod* or Quarter of an *Acre*	40	
Half a quarter of an *Acre*	20	

I. *To meaſure a piece of Land which lyeth directly ſquare.*

A Piece of Land is ſaid to be directly ſquare, whn all the four ſides thereof are of equal

length, and all the four Angles *Right* (or *Square*) Angles, as is the Figure *A*, the sides whereof *B C*, *C D*, *D E*, and *E B*, are all equal, namely, 32 Poles (or Chains) and 25 Parts or Links.



To Measure which piece of Land,

Multiply 32,25 by 32,25, the Product whereof will be 10400625, from which cut off the four last figures towards your right hand (because there are four figures of Fractions behind the Pricks) and then will the sum or Product stand thus, 1040,0625, and as you see it in the Margine: So that this piece of

of Land doth contain 1040 Perches (the figures on the right hand of the line signifying (in this case) nothing.

```
        32,25
        32,25
       -------
        16125
       6450
      6450
     9675
   -----------
   1040,0625
```

Now to know how many Acres there are in this piece, you must divide 1040 by 160, and the Quotient will be 6 Acres and 80 Pearches, which is half an Acre, or 2 Rods, as in the Margine; so that this piece of Land doth contain 6 Acres, 2 Rods 0 Perches.

```
    4 (8
  1 0 4 (0 (6
  1 6 0
```

II. *To measure a Piece of Land that lieth in a Square form, which is longer than it is broad.*

Let the Figure *F* be a piece of Land whose

(l) 2 Length

Length *G H* is 50 Poles (or Chains) and 16 Parts or Links, and its breadth *G K* 28 Pole (or Chains) and, 08 Parts (or Links.)

To measure this Piece,

Multiply 50,16 the Length, by 28,08 the breadth, and cut off the 4 last Figures towards the Right hand (as in the Margine is done) and you shall find in the Product 1408,4928, which shews that the Piece contains 1408 Perches, and almost half a Perch, which you may reject.

```
      50,16
      28,08
      -----
     40128
   40128
  10032
  ---------
  1408,4928
```

Now to turn this into Acres, Divide 1408 by 160, and in the Quotient you shall have 8 Acres, and 128 remaining; which being divided by 40, giveth in the Quotient 3 Rods and 8 Perches remaining So that this piece of Land contains 8 Acres, 3 Rods and 8 Perches.

```
      (1  P.
     ~~6~~(2  (A
  ~~1~~ ~~4~~ 0 (8 (8
    ~~4~~ ~~6~~ 0

  ~~1~~ ~~2~~(8 (3 R.
     ~~4~~ 0
```

III. *To*

III. *To measure a Piece of Land that lyeth in a Triangular Form.*

Let the Figure *L* be a piece of Land lying in form of a Triangle, whose longest side *M N*, let be 28 Poles (or Chains) and 16 Links, and the length of the Perpendicular Line *O P*, let be 18 Poles (or Chains.)

To measure this Piece; there are 3 several wayes.

1. Multiply 28,16 the side *M N*, (which is called the Base) by 18 (the Perpendicular) and the Product (cutting off two figures to-

```
      28,16
         18
   --------
     22528
     2816
   --------
     506,88
   the half
     253.44

 ~~1~~(9 P.
 ~~2~~ ~~5~~(3  (1 A.
 ~~1~~ ~~6~~ 0

   (1 P.
   ~~9~~ (3 (2 R.
   ~~4~~ 0
```

wards the right hand) will be 506188, the half whereof is 253144, so that this Piece containeth 253 Perches, which divided by 160 giveth in the Quotient 1 Acre and 93 Perches, which 93 being divided by 40, yieldeth in the Quotient 2 Rods and 13 Perches; so that this Triangular piece containeth 1 Acre, 2 Rods, and 13 Perches. Or,

You may measure it thus, and save some labour. For

If you multiply 28,16 (the Base) by 9 (which is half the length of the Perpendicular,) the Product cutting off two Figures) will be 253,44 as before, which divided by 190 will give 1 Acre

```
   28,16
       9
  -------
  253,44
```

1 Acre, 2 Rods and 13 Perches. Or,

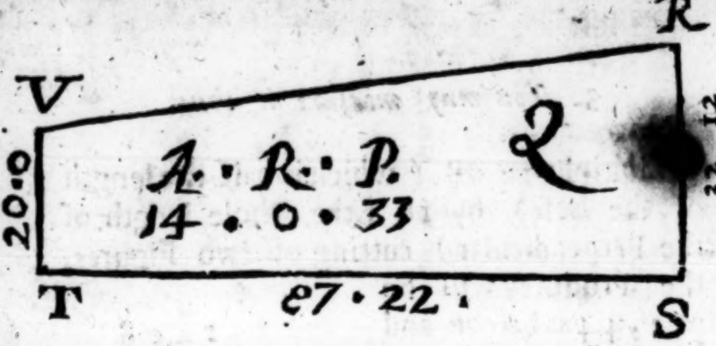
3. *You may measure it thus:*

Multiply 14,08 (which is half the length of the Base), by 18 (the whole length of the Perpendicular) cutting off two Figures, the Product will be 253,44 as before, and being divided by 160 will produce 1 Acre, 2 Rod, and 13 Perches as before, all which is perspicuous in the Margine.

```
 14,08
    18
 -----
 11264
 1408
 -----
 253,44
```

IV. *How to measure a four sided piece of Land, whose two ends are unequal.*

Let *Q* be a piece of Land, let the length thereof *T S* be 87 Poles (or Chains) and 22 Parts or Links, and let the end *R S* be 32 Chains, 12 Links, and the end *T V* 20 Chains.



To measure this Piece.

```
  32,12
  20,00
  -----
  52,12
  26,06

     6722
     26,06
    ------
    52332
   523320
  17444
  -------
  2272,9532
```

Add 32,12 (the longer end) to 20, (the lesser end) and they make 52,12, the half whereof is 26,06. This 26,06 being multiplyed by the length 87,22 giveth in the Product (the four last fignres being cut off) 2272,9532 which is 2272 Perches, which I call 2273 Perches, because the figure following the separating point is 9, and so

so you must alwayes do when the Figure following the separating point is above 5, as 6, 7, 8, or 9, as here.

Now this 2273 Perches, being divided by 160, giveth in the Quotient 14 Acres 33 Pearches. So that this Piece contains 14 Acres, 00 Rods, 33 Perches.

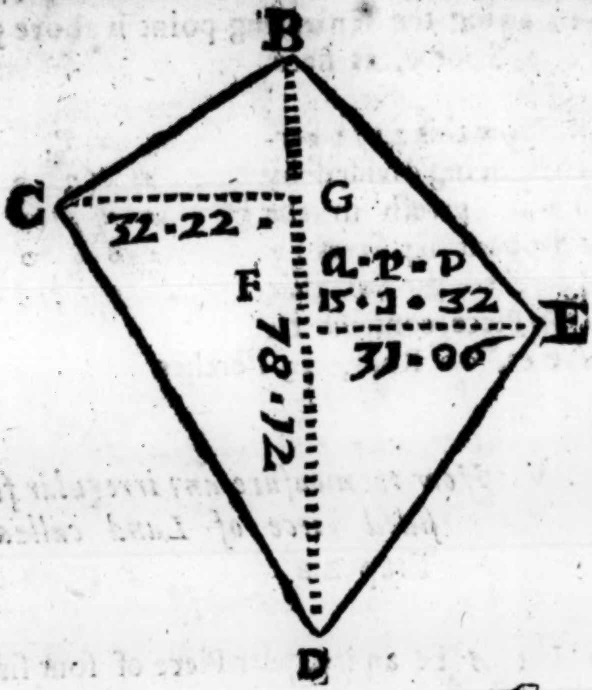
```
  x P.
x 8(3      A.
x x 7 (3 (14
x 8 8 0
x
```

V. *How to measure any irregular four sided piece of Land called a* Trapezia.

Let *A* be an irregular Piece of four sides.

First, measure the longest Line from *B* to *D*, which suppose you find to be 78 Chains 12 Links; then measure the Perpendicular from *C* to *G*, which imagine 32 Chains, 22 Links.

Secondly,



31,06	
32,28	
63,28	
the half	
31,64	

Secondly, Add 31,06, and 32,22 (the two Perpendiculars) together, and they make 63,28, the half whereof is 31,64; multiply this 31,64 by 78,12. (the length of the longest side) the Product (cutting of four Figures) will be

2471,

2471,7168, which I call 2472 Perches, and this 2472, being divided by 160, giveth in the Quotient 15 Acres 72 Pearches, which 72 divided by 40, giveth 1 Rod, and 32 Perches remaining; So that this irregular piece of Land will contain 15 Acres, 1 Rod, and 32 Perches. The manner of the whole Work is visible in the Margine.

78,12
31,64
31248
46872
7812
23436
2471,7168

~~3~~
~~1~~ ~~8~~ P. A.
~~2~~ ~~4~~(72(15
~~1~~ ~~6~~ ~~6~~0
~~1~~

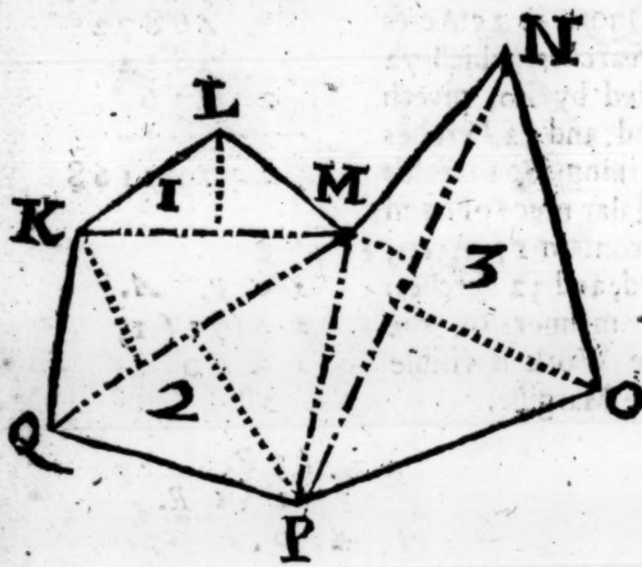
(3 P.
~~7~~ (2 (1 R.
~~4~~ 0

VI. *To measure any irregular Piece, consisting of very many Sides and Angles.*

There is no more difficulty in this, then in the last before going, only the more sides, the more *Trapezia*'s and *Triangles* it must be reduced into, and so consequently the more Work.

Suppose

Suppose therefore that the irregular Plot or Figure *K, L, M, N, O, P, Q*, were to be measured.



First, By Lines drawn from some one Angle or other (as here from the Angle at *M*) draw lines to the other Angles, whereby the irregular Figure may be reduced into *Triangles* and *Trapezia's*; As first the Line *M K*, makes the Triangle *K L M*, marked for distinction with the Figure (1).

Secondly, The Line *M P*, makes the *Trapezia K M P Q*, noted with the Figure (2).

Thirdly,

Thirdly, the Line *P N*, making the *Trapezia* *M N O P*, noted for distinction with (3).

Now by this means you have divided this irregular Figure *M N O P Q K L* into three other Figures; namely

The Triangle *L* K *M*.
The Trapezia K *M P Q*
The Trapezia *M N O* P.

Now these three Figures may be cast up as is directed in the 3 *d.* and 5 *th.* Sections of this. For

(1) In the *Triangle* *L* K M,

	Ch. L.
The Base K *M* is————	22,06
Half the Perpendicular *L R.* is —	4,02
The content in Perches	88,68

```
   22,06
    4,02
  -------
   4412
 8824
 --------
 88,6812
```

(2)

(2) In the *Trapezia* K M P Q.

		Ch.	L.
The Common Base or Diagonal *Q M* is		30	00
The Perpendicular	*K S*	12	20
	P T	16	16
Their Sum		28	36

14,18
30

42540

The half Sum of the Perpendiculars	14	18
The Content in Perches	425	40

(3) In the *Trapezia* M N O P,

		Ch.	L.
The common Base or Diagonal P *N* is		41	12
The Perpendicular	*M V* is	6	00
	O T is	18	00
Their Sum		24	00

18
6

108

The

The half Sum of the Perpendiculars 12,00

The Content in Perches 492,44

```
   41,12
      12
   -----
    8224
   4112
  ------
  493,44
```

		Perches
The Sum of	(1)	88,68
	(2)	425,40
	(3)	493,44
The Sum of all is		1007,52 *Perches.*

Which divided by 160 giveth in the Quotient 6 Acres, and 48 Perches remaining, which is 1 Rod and 8 Perches; so that this irregular Piece contains 6 Acres, 1 Rod, 8 Perches.

```
    ~~4~~ (4 P.
  ~~1~~ ~~0~~ ~~0~~ (8 (6 A.
    ~~1~~ ~~6~~ 0
```

And according to the directions of this Section may any irregular Piece whatsoever be measured, and the manner of the Work may be seen as thus,

VII. *How*

VII. *How to measure out these Diagonals and Perpendiculars in the Field?*

It will be of little use to know how to cast up the content of any Piece of Land, except you first know how to find the length of the Lines in the Field, by which you are to cast it up by; and to direct you therein shall be the Work of this Section.

This may well be performed by two Persons. For

First, Let one stand at *M*, and let the other measure in a right Line from *M* towards *K*, so he that standeth at *M*, may direct him that measureth that he go in a right Line towards *K*; and let him that Measureth, when he comes against the Angle *L*, which will be when he is at *R*, there stick a mark, and from it measure up to *L*; so have you the length of the Line *K M*, and the Perpendicular *L R*, by which you may cast up the quantity of the Triangle *L K M*, as is before directed.

Secondly, Let one stand at *M*, and direct another

another to measure towards *Q*, and in his going to set up marks against the angles *P* and *K*, as at *T* and *S*; then having the length of the Diagonal *Q M*, measure the two perpendiculars K *S* and *P T*; so have you sufficient whereby to cast up the Trapezia *K M P Q*, as is directed before in the fifth.

Thirdly, Let one stand at *N*, and direct another to measure towards P, and in his passage to take notice when he comes against the angles *M* and *O*, as at *V* and *X*; there setting up some stick or other mark: then having measured *N P* the Diagonal, and *N V* and *O X* the two perpendiculars, you may cast up the content of the Trapezia *M N O P*, and by adding the contents of these two Trapezias and the Triangle together, they give you the content of the whole Field.

And according to this method you may by your Chain or Pole measure any passable piece of Land; but for Woods and boggy Grounds, other Artifices must be used: Wherefore if any desire farther knowlege in the Art of Surveying of Land, let them have recourse to Mr. Leybourn *in his* Compleat Surveyor, *where they may receive ample satisfaction: And so in this place I shall say no more of Surveying.*

Of the Mensuration of SOLIDS:

AS OF *Timber, Stone, &c.*

EXamples in this kind of Measure will make it familiar and easie.

1. *In a Squared Piece of Timber, which is 31 foot 6 inches long, 1 foot 7 inches broad, and 9 inches deep; how many solid feet are contained therein?*

```
      1,58
       ,75
     -----
      790
     1106
     ------
    1,1850
      31,5
    ------
     59250
    11850
   35550
   --------
   37,32750
```

Multiply 1,58 (the decimal of 1 foot 7 inches) the breadth, by ,75 (the decimal part of 9 inches) the depth, the product will be 1,1850, the number of square inches contained in the end of the Piece; which 1,1850 being multiplied by 31,5 the length of the Piece, produceth 37 foot 327 parts; which is one third of a foot, or 4 inches.

2.

2. *If a Stone be 6 foot 3 inches long, 2 foot 5 inches broad, and 2 foot 1 inch deep, how many solid feet are contained in that Stone?*

Multiply 2,42 the breadth, by 2,08 the depth, the product will be 5,0336; which again multiplied by 6,25 the length, the product will be 31,46, that is 31 foot and 46 parts, which is near half a foot, *viz.* 5 inches and a half.

```
      2,42
      2,08
    ------
     1936
    484
  --------
   5,0336
     6,25
  --------
   251680
  100672
 302016
 ----------
 31,460000
```

3. *If a Piece of Stone or Timber be bigger at the one end then at the other, as the Piece* A, *whose side at the little end* HNOP, *is* 12 *inches or* 1 *foot* 00 *parts, and the side at the other end* BECD 1 *foot* 6 *inches, and its length* 45 *foot, how many solid feet is contained in that piece of Stone or Timber?*

Multiply the side of the lesser end 1,00 foot in it self 1,00 by 1,00, the product is 1,000; then

then multiply 1,5 the side of the greater end B C D E in its self, namely 1,5, by 1,5, and the product will be 2,25, these two products, *viz.* 1,0000 and 2,25 being multiplied together, do produce 2,250000, whose Square root is 1,50. Now add the two products 1,00 and 2,25 & the Square root 1,5 together, and their sum is 4,75, which multiplied by 5, one third part of the length, giveth for the product 23,75, which is 23 foot and 75 parts of a foot.

1,00
1,00

1,0000

1,5
15

75
15

2,25

2,25
1,0000

2,250000

Square Root of
2,25
is
1,5

1,00
2,25
1,50

4,75
5

23,75

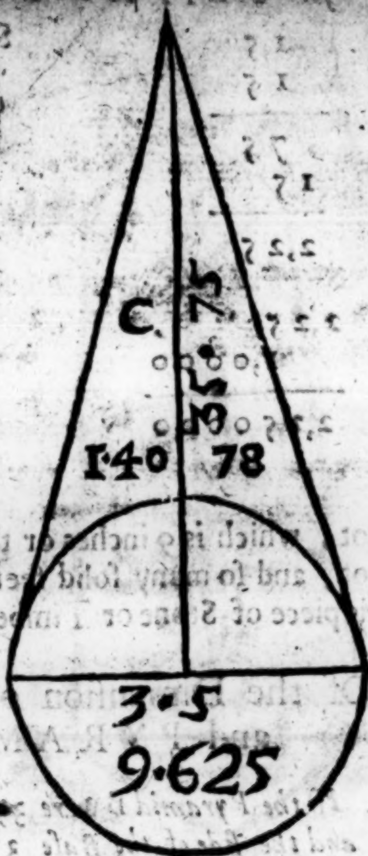
foot, which is 9 inches or three quarters of a foot, and so many solid feet are contained in this piece of Stone or Timber.

Of the Dimension of CONES and PYRAMIDS.

1. *If the Pyramid* B *were* 3[illegible] *foot* 9 *inches long, and the side of the Base* 3 *foot* 6 *inches, how many solid feet are contained in that Pyramid?*

In all Cones and Pyramids, the Area of the Base being multiplied in one third part of the length, giveth the solid content of that Pyramid or Cone.

So in this Example, The side of the Base of the Pyramid being 3,5, multiply 3,5 the side, in



in its ſelf, *viz.* 3,5 by 3,5, and thereof will come 12,25; this product being multiplied by 15,25 which in

3,5
3,5
175
105
12,25

is one third part of 35,75 the length) giveth in the product 186,8125, which is 186 foot and 8125 parts of a foot, which is above 3 quarters of a foot, namely 9 inches and 3 quarters of an inch.

12,25
15,25
6125
2450
6125
1225
186,8125

2. *If it had been a Cone in C, whose Diameter at the Base were 3 foot 6 inches, and its height 35 foot 9 inches, then to find the Area of the Circle at the Base.*

Multiply the Diameter of the Circle in it self, *viz.* multiply 3,5 by 3,5, the product will be 12,25, then multiply this 12,25 (alwayes by 11, and it maketh 134,75; which product 13475 divide (alwayes) by 14, and the quotient will be 9,625, the Area of the Circle of the Base; and this being multiplied by 15,25, the

3,5
3,5
175
105
12,25

```
      12,25
         11
    -------
      1225
     1225
    -------
     134,75

      2 1 2
    4 8 3 (7
  1 3 4,7 5 9 (9,625
    1 4 4 4 4
      1 1 1
```

the third part of the length, produceth 146,78125, which is 146 foot and 9 inches and almost half an inch, for the solid content.

The

THE Clerks Tutor, TO THE KNOWLEDGE BOTH OF SIMPLE & COMPOUND INTEREST AND REBATE.

Accommodated with Tables of both Kinds ready Calculated.

With familiar Instructions and Examples how to use them.

LONDON,
Printed by *W. L.* and *T. J.* for *H. Twyford*
M DC LXXVI.

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M DC LXVI.

A
TABLE
SHEWING
The Intereſt due for any Sum of Money, from 5 *s.* to 1000 *l.* according to the Rate of 6 *l.* in the 100 *l.* for a year, and from one day to a compleat year.

By which all Queſtions of that kind may be reſolved by Common Addition only.

A Table of Simple Interest at 6 per Cent for

		1 day			2 days			4 days			7 days			10 days			20 days		
		s.	d.	q.	s.	d.	q.	s.	d.	q.	s.	d.	q.	s.	d.	q.	s.	d.	q.
Shillings	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1
Pounds	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	2
	2	0	0	0	0	0	0	0	0	1	0	0	2	0	0	3	0	1	2
	3	0	0	0	0	0	1	0	0	1	0	0	3	0	1	1	0	2	0
	4	0	0	0	0	0	1	0	0	2	0	1	0	0	1	3	0	3	0
	5	0	0	0	0	0	1	0	0	2	0	1	1	0	2	0	0	3	3
	6	0	0	1	0	0	1	0	0		0	1	2	0	2	1	0	4	3
	7	0	0	1	0	0	2	0	1	0	0	1	3	0	2	3	0	5	2
	8	0	0	1	0	0	2	0	1	1	0	2	0	0	3	1	0	6	1
	9	0	0	2	0	0	3	0	1	2	0	2	2	0	3	2	0	7	0
	10	0	0	2	0	0	3	0	1	2	0	2	3	0	3	3	0	7	3
	20	0	0	3	0	1	2	0	3	0	0	5	2	0	7	3	1	3	3
	30	0	1	1	0	2	1	0	4	3	0	8	1	0	11	3	1	11	3
	40	0	1	2	0	3	1	0	6	1	0	11	0	1	3	3	2	7	2
	50	0	1	3	0	3	3	0	7	3	1	1	3	1	7	3	3	3	2
	60	0	2	1	0	4	3	0	9	2	1	4	3	1	11	3	3	11	1
	70	0	2	3	0	5	2	0	11	0	1	7	2	2	3	2	4	7	1
	80	0	3	1	0	6	1	1	0	2	1	10	0	2	7	2	5	3	0
	90	0	3	2	0	7	0	1	2	0	2	0	3	2	11	2	5	11	0
	100	0	3	3	0	7	3	1	3	3	2	3	2	3	3	2	6	6	3
	20	0	7	3	1	3	3	2	7	2	4	7	1	6	6	3	13	1	3
	300	0	11	3	1	11	2	3	11	1	6	10	3	9	15	1	19	8	3
	400	1	3	3	2	7	2	5	3	0	9	2	3	13	1	3	26	3	2
	500	1	7	3	3	3	2	6	6	3	11	6	0	16	5	1	32	10	2
	600	1	11	2	3	11	1	7	10	2	13	9	3	19	8	3	39	5	2
	700	2	3	6	4	7	1	9	2	2	16	4	1	3	0	0	6	0	1
	800	2	7	2	5	3	0	10	6	1	18	4	3	26	3	2	52	7	0
	900	2	11	2	5	11	0	11	10	0	20	8	2	9	7	0	9	2	0
	1000	3	3	2	6	6	0	13	1	3	23	0	0	2	10	2	65	9	2

A Table of Simple Interest at 6 per Cent for

	1 month			2 months			3 months			6 mont.			9 months			a year.		
	s.	d.	q.	s.	d.	q.	s.	d.	q.	s.	d.	q.	s.	d.	q.	s.	d.	q.
Shillings. 5	0	0	1	0	0	2	0	0	3	0	1	3	[illegible]	[illegible]	3	0	3	2
10	0	0	2	0	1	0	0	1	3	0	3	2	0	5	2	0	7	1
15	0	0	3	0	1	1	0	2	3	0	5	2	0	8	0	0	10	2
Pounds. 1	2	1	1	0	2	2	0	3	2	0	7	1	0	10	2	1	2	2
2	0	2	2	0	4	3	0	7	1	1	2	2	1	9	2	2	4	3
3	0	3	2	0	7	1	6	10	2	1	9	2	2	8	2	3	7	1
4	0	4	3	0	9	2	1	2	2	2	4	3	3	7	1	4	9	2
5	0	6	0	1	0	0	1	6	0	3	0	0	4	6	0	6	0	0
6	0	7	1	1	2	2	1	9	2	3	7	1	5	4	3	7	2	2
7	0	8	2	1	4	3	2	1	1	4	2	2	6	3	2	8	4	3
8	0	9	2	1	7	1	2	4	3	4	9	2	7	2	2	9	7	1
9	0	10	3	1	9	2	2	8	2	5	4	3	8	1	1	10	9	2
	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.
10	0	1	0	0	2	0	0	3	0	0	6	0	0	9	0	0	12	0
20	0	2	0	0	4	0	0	6	0	0	12	0	0	18	0	1	4	0
30	0	3	0	0	6	0	0	9	0	0	18	0	1	7	0	1	16	0
40	0	4	0	0	8	0	0	12	0	1	4	0	1	16	0	2	8	0
50	0	5	0	0	10	0	0	15	0	1	10	0	2	5	0	3	0	0
60	0	6	0	0	12	0	0	18	0	1	16	0	2	14	0	3	12	0
70	0	7	0	0	14	0	1	1	0	2	2	0	3	3	0	4	4	0
80	0	8	0	0	16	0	1	4	0	2	8	0	3	12	0	4	16	0
90	0	9	0	0	18	0	1	7	0	2	14	0	4	1	0	5	8	0
100	0	10	0	1	0	0	1	10	0	5	0	0	4	10	0	6	0	0
200	1	0	0	2	0	0	3	0	0	5	0	0	9	0	0	12	0	0
300	1	10	0	3	0	0	4	10	0	9	0	0	13	10	0	18	0	0
400	2	0	0	4	0	0	6	0	0	11	0	0	18	0	0	24	0	0
500	2	10	0	5	0	0	7	10	0	15	0	0	22	10	0	30	0	0
600	3	0	0	6	0	0	9	0	0	18	0	0	27	0	0	36	0	0
700	3	10	0	7	0	0	10	10	0	21	0	0	31	10	0	42	0	0
800	4	0	0	8	0	0	12	0	0	24	0	0	36	0	0	48	0	0
900	4	10	0	9	0	0	13	10	0	27	0	0	40	10	0	54	0	0
1000	5	0	0	10	0	0	15	0	0	30	0	0	45	0	0	30	0	0

The Description and Use of this Table of simple Interest at 6 *per cent.*

The Description of the Table

In the first Columne of the Table towards your right hand, you have any sum of money (or may by Addition find it) from 5 *s.* to 1000 *l.* thus, 5, 10, 15 *s.* Then 1, 2, 3, 4, 5, 6, 7, 8, 9 *l.* Then 10, 20, 30, 40, 50, 60, 70, 80, 90 *l.* Lastly, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000 *l.*

Then at the head of the Table you have 1 day, 2 days, 4 days, 7 days, 10 days, 20 days, and again 1 month, 2 months, 3 months, 6 months, 9 months, and a year; and under every one of these you have the simple Interest that will become due for such time as is above expressed in the head of the Table, for such sum as stands against it in the first Columne on the left hand. Thus much for the description of the Table, now shall follow its use.

The use of the Table of simple Interest.

The use of the Table will best appear by examples.

Question 1. *What will the Interest of 60 l. amount unto in 7 days?*

Look for 7 days in the head of the Table, then casting your eye down that Columne till you

you find 60 *l.* in the first Colume on your left hand, and against 60, and under 7 days, you shall find 1 *s.* 4 *d.* 3 *q.* and so much is the Interest of 60 *l.* for 7 days or a week.

Question 2. *What is the Interest of 100 l. in 9 months?*

Find 9 months at the head of the Table, and down in that Colume, against 100 *l.* you shall find 4 *l.* 10 *s.* 0 *d.* and such is the Interest of 100 *l.* for 9 months.

Question 3. *What is the Interest of 15 s. for a year?*

Seek for a year in the head of the Table, and under it against 15 *s.* in the first Colume, you shall find 0 *s.* 10 *d.* 2 *q.* which is the Interest of 15 *s.* for a year,

Question 4. *What is the Interest of 200 l. in 27 days?*

In the Table you cannot find 27 days, therefore must you take it out at twice, thus:

The Interest of 200 *l.* for 20 days is 0 *l.* 13 *s.* 1 *d.* 3 *q.* and for 7 days it is 0 *l.* 4 *s.* 7 *d.* 1 *q.*

So the Interest of 200 *l.* in 27 days, will be 0 *l.* 17 *s.* 9 *d.* 0 *q.*

Question 5. *What is the Interest of 473 l. 15 s. in a year, 4 months, and 9 days.*

In this Example you can in your Table find neither your sum of money, nor your time in any one sum, wherefore you must take it out of your Table at several times, thus:

	l.		*l.*	*s.*	*d.*	*q.*
The Interest of	400	for a year is	24	0	0	0
	70		4	4	0	0
	3		0	3	7	1
	473					
	15 *s.*	for a year, is	0	0	10	2
	400	for two months taken twice, is	8	0	0	0
	70		1	8	0	0
	3		0	1	2	2
	15 *s.*	for 2 m. twice, is	0	0	2	1
	400	for 7 days, is	0	9	2	3
	70		0	1	7	2
	3		0	0	0	3
	15 *s.*	for 7 days, is	0	0	0	1
	400	for 2 days, is	0	2	7	2
	70		0	0	5	2
	3		0	0	0	1
	15 *s.*	for 2 days,	0	0	0	0
		The whole Interest is	38	11	11	0

A
Table of Rebate,

SHEWING

What muſt be Abated upon any Sum of Money paid before it becomes due, from 5 *s.* to a 1000 *l.* and for every ſingle Month for a whole Year, Calculated for the Rate of *6 l. per Cent.*

A Table of Rebate at 6 per Cent. for

Pound Shillings	1 mon. l.	s.	d.	2 mon. l.	s.	d.	3 mon. l.	s.	d.	4 mon. l.	s.	d.	5 mon. l.	s.	d.	6 mon. l.	s.	d
5	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	3
10	0	0	0	0	0	1	0	0	2	0	0	2	0	0	3	0	0	2
15	0	0	0	0	0	2	0	2	3	0	0	3	0	0	4	0	0	5
1	0	0	1	0	0	2	0	0	4	0	0	5	0	0	6	0	0	7
2	0	0	2	0	0	5	0	0	7	1	0	[illegible]	0	1	0	0	1	2
3	0	0	3	0	0	7	0	0	11	0	1	2	0	1	6	0	1	9
4	0	0	5	0	0	10	0	1	2	0	1	7	0	1	11	0	2	4
5	0	0	6	0	1	0	0	1	6	0	1	11	0	2	5	0	2	11
6	0	0	7	0	1	2	0	1	9	0	2	4	0	2	11	0	3	6
7	0	0	8	0	1	5	0	2	2	0	2	9	0	3	5	0	4	1
8	0	0	9	0	1	7	0	2	4	0	3	2	0	3	11	0	4	8
9	0	0	11	0	1	9	0	2	8	0	3	6	0	4	5	0	5	3
10	0	1	0	0	2	0	0	2	11	0	3	11	0	4	11	0	5	10
20	0	2	0	0	3	11	0	5	11	0	7	10	0	9	9	0	11	8
30	0	3	0	0	5	11	0	8	10	0	11	9	0	14	8	0	17	6
40	0	4	0	0	7	11	0	11	10	0	15	8	0	19	6	1	3	4
50	0	5	0	0	9	11	0	14	9	0	19	7	1	4	5	1	9	2
60	0	6	0	0	11	11	0	17	9	1	3	6	1	9	3	1	14	11
70	0	7	0	0	13	10	1	0	8	1	7	5	1	14	0	2	0	9
80	0	8	0	0	15	10	1	3	8	1	11	4	1	19	0	2	6	7
90	0	8	11	0	17	10	1	6	7	1	15	4	2	3	11	2	12	5
100	0	9	11	0	19	10	1	9	7	1	19	3	2	8	9	2	18	9
200	0	19	10	1	19	7	2	19	1	3	18	5	4	17	7	5	16	6
300	1	9	11	2	19	5	4	9	8	5	17	8	7	6	4	8	14	9
400	1	19	10	3	19	2	5	18	3	7	16	11	9	15	1	11	13	0
500	2	9	9	4	19	0	7	7	9	9	16	1	12	3	11	14	11	3
600	2	19	8	5	18	10	8	17	4	11	15	3	14	12	8	17	9	6
700	3	9	8	5	18	7	10	6	11	13	14	6	17	1	6	20	7	9
800	3	19	7	7	18	5	11	15	5	15	13	9	19	10	3	23	6	0
900	4	9	7	8	18	2	13	6	0	17	12	11	21	19	0	26	4	3
1000	4	19	6	9	18	0	14	15	7	19	12	2	24	7	10	29	2	0

A Table of Rebate at 6 per Cent. for

		7 months			8 months			9 months			10 mont.			11 mont.			a year		
		l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.
Shillings.	5	0	0	2	0	0	2	0	0	2	0	0	2	0	0	3	0	0	3
	10	0	0	4	0	0	5	0	0	5	0	0	6	0	0	6	0	0	7
	15	0	0	6	0	0	7	0	0	8	0	0	9	0	0	9	0	0	10
Pounds.	1	0	0	8	0	0	9	0	0	10	0	0	11	0	1	0	0	1	2
	2	0	1	0	0	1	6	0	1	8	0	1	11	0	2	1	0	2	3
	3	0	2	0	0	2	4	0	2	7	0	2	10	0	3	2	0	3	5
	4	0	2	8	0	3	1	0	3	5	0	3	10	0	4	2	0	4	6
	5	0	3	4	0	3	10	0	4	4	0	4	9	0	5	3	0	5	8
	6	0	4	1	0	4	7	0	5	2	0	5	9	0	6	3	0	6	9
	7	0	4	9	0	5	5	0	6	0	0	6	8	0	7	4	0	7	11
	[illegible]	0	5	5	0	6	7	0	6	11	0	7	7	0	8	4	0	9	1
	9	0	6	1	0	6	11	0	7	9	0	8	7	0	9	5	0	10	2
	10	0	6	9	0	7	8	0	8	7	0	9	6	0	10	5	0	11	4
	20	0	3	6	0	15	5	0	17	3	0	19	1	1	0	10	1	2	8
	30	1	0	3	1	3	1	1	5	10	1	8	7	1	11	3	1	14	0
	40	1	7	1	1	10	9	1	14	5	1	18	1	2	1	8	2	5	3
	50	1	13	10	1	18	6	2	3	1	2	7	7	2	12	2	2	16	7
	60	2	0	7	2	6	2	2	11	8	2	17	2	3	3	7	3	7	11
	70	2	7	4	2	13	10	3	0	3	3	6	8	3	13	0	3	19	3
	80	2	14	1	3	1	6	3	8	11	3	16	2	4	3	5	4	10	6
	90	3	0	10	3	9	3	3	17	6	4	5	9	4	13	10	5	1	10
	100	3	7	8	3	16	11	4	6	1	4	15	3	5	4	3	5	13	2
	200	6	15	3	7	13	10	8	12	3	9	10	6	10	8	6	11	6	5
	300	10	2	11	11	10	9	12	18	4	14	5	9	15	12	9	16	19	7
	400	13	10	6	15	7	8	17	4	6	19	0	11	20	17	1	20	20	10
	500	16	18	2	19	4	7	21	10	7	23	16	2	26	1	4	28	6	0
	600	20	5	10	23	1	6	25	16	9	28	11	5	31	5	7	33	10	3
	700	23	12	5	26	18	6	30	2	10	33	6	8	36	9	10	39	12	5
	800	7	1	1	30	15	5	34	9	0	38	1	11	41	14	1	45	5	8
	900	30	8	8	34	12	4	38	15	1	42	17	2	46	18	5	50	18	10
	1000	33	16	4	38	9	3	43	1	2	47	12	5	52	2	8	56	12	1

The Deſcription and Uſe of this Table of Rebate or Diſcount at 6 *per Cent.*

The Deſcription of the Table.

The Table for form differeth little from the former, for in the firſt Column you have any Sum of Money (or may make it as in the other Table) from 5 *s.* to 1000 *l.* and at the head over the twelve Columns, there you have 1 Month, 2 Months, 3 Months, and ſo to a Year.

The Uſe of the Table.

The Tables Uſe will beſt appear by the reſolving of ſome Queſtions.

Queſtion 1. *One oweth* 500 l. *to be paid at the expiration of* 9 *Months, what ſum muſt be rebated to receive it preſently.*

Look in the Table for 500 in the firſt Column towards your left hand, then look along that line till you come under 9 Months, and there you ſhall find 21 *l.* 10 *s.* 7 *d.* and ſo much muſt be diſcounted out of 500 *l.* for the preſent payment; ſo that 478 *l.* 9 *s.* 5 *d.* muſt be paid preſently.

Queſtion

Question 2: *What sum of money will pay* 1469 *l. discounted for* 11 *months?*

				l.	*s.*	*d.*
The Discount of	1000	for 11 months, is		52	17	8
	400			20	17	1
	60			3	3	7
	9			0	9	5
	1469	The Discount		76	12	9

	l.	*s.*	*d.*	
From	1469	00	0	
Substract	76	12	9	The Discount.
There rests	1392	7	3	The sum to be paid presently.

In the same manner, if neither the just sum of money, nor the exact time can be found in the Table, you must take them out at several times, as you did for the Interest in the former Example, *Page* 120. and by so doing, you shall find that if 375 *l.* were to be paid at the end of 5 months, that 365 *l.* 16 *s.* 11 *d.* will pay the Sum at present Payment: And the like may be done for any other Sum or Time.

Question 3. *What Sum of present Money must be paid for* 473 l. 15 s. *due at* 11 *Moneths end.*

			li.	s.	d.
The Discount of	400	for 11 Months is	20	17	1
	70		3	13	0
	3		0	3	2
The Discount of 15 *s.* for 11 Months is			0	0	9
The Discount in all is			24	14	0

Wherefore if from 473 *l.* 15 *s.* the sum due at 11 Moneths End, you substract 24 *l.* 14 *s.* the Remainder will be 449 *l.* 1 *s.* and so much present money will pay the 473 *l.* 15 *s.* due at 11 Moneths End.

	li.	s.	d.
The sum to be paid at 11 Mon.	473	15	0
The Discount,	24	14	0
The present sum to be paid	449	1	0

A Table

A Table for the Purchase of Leases or Annuities: The Purchaser being allowed either 8 *l.* or 6 *l.* *per Cent.* Compound Interest for his Money laying out.

The number of Years to be Purchased.	At VIII. Per cent. The Worth of the Lease or Annuity, in Years and Moneths. Year	m.	At VI. Per cent. The Worth of the Lease or Annuity, in Years and Moneths. Year	m.
1	0	11	0	11
2	1	9	1	10
3	2	7	2	8
4	3	4	3	6
1	4	0	4	3
6	4	7	4	11
7	5	2	5	7
8	5	9	6	2
9	6	3	6	10
10	6	9	7	4
11	7	2	7	11
13	7	11	8	10
15	8	7	9	9
17	9	1	10	6
19	9	7	11	2
21	10	0	11	9
23	10	4	12	4
25	10	8	12	9
27	10	11	13	3
29	11	2	13	7
31	11	4	13	11
41	11	11	15	1
51	12	3	15	9
61	12	4	16	2
71	12	5	16	5
81	12	6	16	6
91	12	6	16	7

The

The Table Explained.

The first Column to the left hand shews the number of years to be purchased, and the other Columns shew how many Years and months Rent the Purchase is worth in ready money.

Question 1. *What is a Lease of Annuity for 13 Years to come worth in ready Money, the Purchaser being allowed either* 8 *or* 6 per Cent. *for his Money?*

Look in the first Column of the Table for 13 (the number of Years to be purchased) and against it (in the next Colume under VIII *per Cent*) you shall find 7 11, which shews that the Lease or Annuity is worth 7 Years and 11 Months purchase.

But against 13 Years in the Colume under VI. *per Cent*, you shall find 8 19, which is 8 Years and 10 Months purchase.

Now supposing the Rent or Annuity to be 12 *l.* a Year, then the 7 Years is worth 12 times 7 *l.* that is 84 *l.* and the 11 Months is worth 11 *l.* in all 95 *l* at 8 *per Cent*; but at 6 *per Cent.* the purchase being worth 8 Years 10 Months, it will amount to 105 *l.* which is 11 *l.* more than the former.

A TABLE SHEWING

The preſent worth of any Annuity, Rent, or Penſion, either in Poſſeſſion or Reverſion, from 20 *s.* to 1000 *li. per Annum*, to be paid yearly, and to continue any number of years under 31; accounting or allowing 6 *per Cent. per Annum* Compound Intereſt, ready caſt up.

Years	1				2				3			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
1	0	18	10	1	1	17	8	3	2	16	7	1
2	1	16	8	0	3	13	4	0	5	10	0	0
3	2	13	5	2	5	6	11	0	8	0	4	2
4	3	9	3	2	6	18	7	1	10	7	10	2
5	4	4	3	0	8	8	6	0	12	12	9	0
6	4	18	4	0	9	16	8	1	14	15	0	1
7	5	11	7	3	11	3	3	2	16	14	11	1
8	6	4	2	1	12	8	4	2	18	12	6	3
9	6	16	0	1	13	12	0	3	20	8	1	0
10	7	7	2	2	14	14	4	3	22	1	7	1
11	7	17	8	3	15	15	5	3	23	13	2	2
12	8	7	8	0	16	15	4	1	25	3	0	0
13	8	17	0	2	17	14	1	1	26	11	1	2
14	9	5	10	3	18	11	9	2	27	17	8	1
15	9	14	3	0	19	8	6	0	29	2	9	0
16	10	2	1	1	20	4	2	3	30	6	4	1
17	10	9	6	2	20	19	1	1	31	8	7	2
18	10	16	6	2	21	13	1	0	32	9	7	2
19	11	3	2	0	22	6	4	0	33	9	6	0
20	11	9	4	3	22	18	9	2	34	8	2	1
21	11	15	3	1	23	10	6	2	35	5	9	3
22	12	0	10	0	24	1	8	0	36	2	6	0
23	12	6	0	3	24	12	1	2	36	18	2	1
24	12	11	0	0	25	2	0	0	37	13	0	0
25	12	15	8	0	25	11	4	0	38	7	0	0
26	13	0	0	3	26	0	1	2	39	0	2	1
27	13	4	2	2	26	8	5	0	39	12	7	[illegible]
28	13	8	1	1	26	16	3	0	40	4	4	2
29	13	11	9	3	27	3	7	2	40	15	5	1
30	13	15	3	2	27	10	7	0	41	5	10	[illegible]

Years	4				5				10			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
1	3	15	5	2	4	14	4	0	9	8	8	0
2	7	6	8	0	9	3	4	0	18	6	8	0
3	10	13	10	0	13	7	3	2	26	14	7	1
4	13	17	2	2	17	6	6	1	34	13	0	1
5	16	17	0	0	21	1	3	0	42	2	5	3
6	19	13	4	2	24	11	8	3	49	3	5	2
7	22	6	7	0	27	18	2	3	55	16	5	2
8	24	16	9	1	31	0	11	3	62	1	11	2
9	27	4	1	2	34	0	2	0	68	0	4	0
10	29	8	9	2	36	16	0	0	73	12	0	1
11	31	10	11	1	39	8	8	1	78	17	4	2
12	33	10	8	2	41	18	4	2	83	16	9	1
13	35	8	2	2	44	5	3	1	88	10	6	2
14	37	3	7	0	46	9	6	0	92	19	0	0
15	38	16	11	3	48	11	2	3	97	2	5	2
16	40	8	5	2	50	10	7	0	101	1	2	0
17	41	18	2	0	52	7	8	2	104	15	5	1
18	43	6	2	2	54	2	8	2	108	5	6	1
19	44	12	7	3	55	15	10	0	111	11	7	2
20	45	17	7	1	57	6	11	3	114	13	11	3
21	47	1	1	2	58	16	4	3	117	12	9	3
22	48	3	4	0	60	4	1	3	120	8	3	3
23	49	4	3	1	61	10	4	0	123	0	8	0
24	50	4	0	1	62	15	0	2	125	10	0	3
25	51	2	8	0	63	18	4	0	127	16	8	0
26	52	0	3	0	65	0	3	3	130	0	7	2
27	52	16	10	0	66	1	0	2	132	2	1	1
28	53	12	6	0	67	0	7	1	134	1	2	3
29	54	7	3	0	67	19	0	3	135	18	1	3
30	55	1	2	1	68	16	5	3	137	12	11	2

Years	10				20				30			
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.	q.
1	9	8	8	0	18	17	4	1	28	6	0	1
2	18	6	8	0	36	13	4	1	55	0	0	2
3	26	14	7	1	53	9	2	2	80	3	9	2
4	34	13	0	1	69	6	0	2	103	19	0	3
5	42	2	5	3	84	4	11	1	126	7	5	0
6	49	3	5	2	98	6	11	1	147	10	4	3
7	55	16	5	2	111	12	11	1	167	9	5	1
8	62	1	11	2	124	3	11	0	186	5	10	2
9	68	0	4	0	136	0	8	1	204	1	0	1
10	73	12	0	1	147	4	0	1	220	16	0	2
11	78	17	4	2	157	14	9	0	236	12	1	2
12	83	16	9	1	167	13	6	1	251	10	3	2
13	88	10	6	2	177	1	0	3	265	11	7	1
14	92	19	0	0	185	17	11	3	278	16	11	3
15	97	2	5	2	194	4	10	3	291	7	4	1
16	101	1	2	0	202	2	4	1	303	3	6	2
17	104	15	5	1	209	10	10	3	314	6	4	1
18	108	5	6	1	216	11	0	2	324	16	6	3
19	111	11	7	2	223	3	2	3	334	14	10	2
20	114	13	11	3	229	7	11	2	344	1	11	1
21	117	12	9	3	235	5	7	2	352	18	5	1
22	120	8	3	3	240	16	7	2	361	4	11	1
23	123	0	8	0	246	1	4	1	369	2	0	1
24	125	10	0	3	251	0	1	3	376	10	2	1
25	127	16	8	0	255	13	4	0	383	10	0	0
26	130	0	7	2	260	1	3	1	390	1	10	3
27	132	2	1	1	264	4	2	2	396	6	3	3
28	134	1	2	3	268	2	5	2	402	3	8	1
29	135	18	1	3	271	16	3	1	407	14	5	1
30	137	12	11	2	275	5	11	1	412	18	10	3

Years.	40				50				100		
	l.	s.	d.	q.	l.	s.	d.	q.	l.	s.	d.
1	37	14	8	2	47	3	4	3	94	6	9
2	73	6	8	2	91	13	4	3	183	6	9
3	106	18	4	3	133	13	0	1	267	6	0
4	138	12	1	0	173	5	1	1	346	10	2
5	168	9	10	2	210	12	4	1	421	4	8
6	196	13	10	1	245	17	3	3	491	14	7
7	223	5	10	3	279	2	4	2	558	4	9
8	248	7	10	0	310	9	9	2	620	19	7
9	272	1	4	1	340	1	8	1	680	3	4
10	294	8	0	3	368	0	1	0	736	0	2
11	315	9	6	0	394	6	10	2	788	13	9
12	335	7	1	0	419	3	10	1	838	7	8
13	354	2	1	3	442	12	8	1	885	5	4
14	371	15	11	3	464	14	11	3	928	9	11
15	388	9	9	2	485	12	3	0	971	4	6
16	404	4	8	2	505	5	10	3	1010	11	9
17	419	1	9	2	523	17	3	0	1047	14	6
18	433	2	0	1	541	7	7	1	1082	15	2
19	446	6	5	3	557	18	1	1	1115	16	2
20	458	15	11	1	573	9	11	0	1146	19	10
21	470	11	3	1	588	4	1	0	1176	8	2
22	481	13	3	1	602	1	7	0	1204	3	2
23	492	2	8	2	615	3	4	2	1230	6	9
24	502	0	3	2	627	10	4	2	1255	0	8
25	511	6	8	1	639	3	4	1	1278	6	8
26	520	2	6	1	650	3	2	0	1300	6	4
27	528	8	5	0	660	10	6	2	1321	1	1
28	536	4	11	1	670	6	2	0	1340	12	4
29	543	12	7	0	679	10	8	2	1359	1	5
30	550	11	10	1	688	4	10	0	1376	9	8

Years.	100			200			300		
	l.	s.	d.	l.	s.	d.	l.	s.	d.
1	94	6	9	188	13	7	283	0	4
2	183	6	9	366	13	6	550	0	4
3	267	6	0	534	12	0	801	18	0
4	346	10	2	693	0	5	1039	10	7
5	421	4	8	842	9	5	1263	14	2
6	491	14	7	983	9	3	1475	3	11
7	558	4	9	1116	9	6	1674	14	3
8	620	19	7	1241	19	2	1862	18	9
9	680	3	4	1360	6	9	2040	10	1
10	736	0	2	1472	0	4	2208	0	6
11	788	13	9	1577	7	6	2366	1	3
12	838	7	8	1676	15	4	2515	3	0
13	885	5	4	1770	10	8	2655	16	1
14	928	9	11	1858	19	11	2788	9	11
15	971	4	6	1942	9	0	2913	13	6
16	1010	11	9	2021	3	6	3031	15	4
17	1047	14	6	2095	9	0	3143	3	6
18	1082	15	2	2165	10	5	3248	5	7
19	1115	16	2	2231	12	5	3347	8	8
20	1146	19	10	2293	19	8	3440	19	6
21	1176	8	2	2352	16	3	3529	4	5
22	1204	3	2	2408	6	4	3612	9	6
23	1230	6	9	2460	13	6	3691	0	3
24	1255	0	8	2510	1	5	3765	2	1
25	1278	6	8	2556	13	5	3835	0	1
26	1300	6	4	2600	12	8	3900	19	0
27	1321	1	1	2642	2	2	3963	3	2
28	1340	12	4	2681	4	7	4021	17	0
29	1359	1	5	2718	2	10	4077	4	4
30	1376	9	8	2752	19	3	4129	8	11

Years.	400			500			1000		
	l	s	d	l	s	d.	l.	s.	d
1	377	7	2	471	13	11	943	7	11
2	733	7	1	916	13	11	1833	7	10
3	1069	4	1	1336	10	1	2673	0	2
4	1386	0	10	1732	11	0	3465	2	1
5	1684	18	11	2106	3	7	4212	7	3
6	1966	18	7	2458	13	2	4917	6	5
7	2232	19	0	2791	3	9	5582	7	7
8	2483	18	4	3104	17	11	6209	15	10
9	2720	13	6	3400	16	11	6801	13	10
10	2944	0	8	3680	0	10	7360	1	9
11	3154	15	0	3943	8	9	7880	17	6
12	3353	10	9	4191	18	5	8383	16	10
13	3541	1	5	4426	6	10	8852	13	8
14	3717	19	10	4647	9	10	9294	19	8
15	3884	18	0	4856	2	6	9712	5	0
16	4042	7	2	5052	18	11	10105	17	10
17	4190	18	0	5238	12	7	10477	5	2
18	4331	0	10	5413	16	0	10827	12	0
19	4473	4	11	5579	1	2	11158	2	4
20	4587	19	4	5734	19	2	11469	18	5
21	4705	12	7	5882	0	9	11764	1	6
22	4816	12	7	6020	15	10	12041	11	7
23	4921	7	0	6151	13	9	12303	7	7
24	5020	2	10	6275	3	7	12550	7	1
25	5113	6	10	6391	13	6	12783	7	1
26	5201	5	4	6501	11	8	13003	3	4
27	5284	4	3	6605	5	4	13210	10	8
28	5362	9	3	6703	1	8	13406	3	3
29	5436	5	9	6795	7	2	13590	14	5
30	5505	18	7	6882	8	3	13764	16	7

The foregoing Table Explained.

THE Table consisteth principally of 16 Columns, having at the top or head thereof certain greater figures than the rest of the Table, which are the *number of Pounds a year to be purchased*, beginning at 1 *l*. or 20 *s*. a year, and so proceeding from thence to a 1000 *l*. a year, in this order 1 *l*. 2 *l*. 3 *l*. 4 *l*. 5 *l*. then 10 *l*. 20 *l*. 30 *l*. 40 *l*. 50 *l*. again 100 *l*. 200 *l*. 300 *l*. 400 *l*. 500 *l*. and lastly 1000 *l*. *per annum*. Down by the side of every one of these Columns is another Column on the left hand thereof, which beginneth at 1, and so proceedeth downwards by 2, 3, 4, 5, 6, *&c*. to 30, and these are *the number of years that you would purchase*. The Table being thus *explained*, the *Uses* of it will be easie, as by Examples shall appear.

The Use of the Table.

THE Use in general is this, Look for the Annual Rent that you would purchase (be it 3 *l*. 5 *l*. 20 l. 200 *l*. or the like) in the head of one of the Tables, and look the number of years for which you would purchase the said *Rent* or *Annuity*, in the Column on the left hand, and the sum that stands against the number of years you would pur-

purchase, is the present worth thereof in ready money.

Example 1.

What is a Lease, Annuity, or other Annual Revenue of 3 l. *a year, to continue* 17 *years, worth in ready money.*

LOok in the head of the Table for 3 *l.* a year, and look down that Column till you come against 17 years, and against 17 you shall find 31 *l.* 8 *s.* 7 *d.* 2 *q.* And so much present money is an Annuity of 3 *l.* a year, to continue 17 years, worth, Compound Interest, 6 in the hundred being allowed for the money. In this same manner you may find that,

li.		*years*		*li.*	*s.*	*d.*
5	a year,	23	is worth	61	10	4
30	to con-	19		334	15	0
200	tinue	27		2642	1	8
1000		21		11723	10	10

And thus must you do for any other sum and any number of years (under 31) when you can find the just sum of the Annual Revenue in the head of the Table: but if you cannot find the just sum at the head of the Table, then must you follow the Directions of this.

Example 2.

What is an Annuity of 9 *l. a year, to continue* 21 *years, worth in ready money?*

IN the Table you cannot find 9 *l.* a year at the head thereof, wherefore you must take it out of the Table at twice, namely, by taking of 5 *l.* and 4 *l.* which together make 9 *l.* Thus by the Table you shall find

l.		*l.*	*s.*	*d.*	*q.*
4	a year for 21 years to come,	47	1	1	2
5	will be worth ———	58	16	4	3
	Which together make ———	105	17	6	1

And so much is 9 *l.* a year, to continue for 21 years, worth in ready money.

And in the same manner may you find that, an Annuity of 378 *l.* a year, to continue for 25 years, will be worth in ready money, 4832 *l.* 2 *s.* 0 *d.* For

l.		*l.*	*s.*	*d*	*q.*
300	for 25 years is worth.	3835	0	1	0
40		511	6	8	1
30		383	10	0	0
5		63	18	4	0
3		38	7	0	0
378		4832	2	1	1

And thus you must do for any *Sum* or *Annuity* whose *Annual Rent* cannot exactly be found in the head of the *Table*.

Example 3.

Which is worth most, A Lease of 30 *l. a year for* 9 *years, or a Lease of* 20 *l. a year for* 21 *years?*

LOok first what a Lease of 30 *l.* a year to continue 9 years is worth, then look what 20 *l.* a year for 21 years is worth. So shall you find 30 *l.* a year for 9 years to be worth

	li.	*s.*	*d.*	*q.*
be worth ————————	204	1	0	1
20 *l.* a year for 21 years to be worth ————————	235	5	7	2
	31	4	7	1

By which you may see, that the Lease of 20 *l.* a year for 21 years, is worth 31 *l* 4 *s.* 7 *d.* 1 *q.* more than the Lease of 30 *l.* a year for 9 years.

Example 4.

For how many years will 500 *l. purchase a Lease or Annuity of* 50 *l. a year?*

LOok in the Table of 50 *l.* a year, and cast your eye down that Column till you come to find the nearest Sum you can to 500 *l.* which you shall find to be 505 *l.* 5 *s.* 10 *d.* 3 *q.* against which the number of years standing are 16, so that if to your 500 *l.* you add 5 *l.* 6 *s.* 10 *d* 3 *q.* you may with it purchase 50 *l.* a year for 16 years.

Exampl.

Example 5.

A Lease of a house for 21 years to come, is to be let for 30 l. a year and a 100 l. fine, what fine must be given to bring the Rent down to 10 l. a year?

YOu must first find the difference between the Rent demanded, and the Rent offered, which difference is 20 *l.* Then find by the Table what 20 *l.* a year for 21 years is worth present money, which you will find to be 235 *l.* 5 *s.* 7 *d.* 2 *q.* to which add the Fine demanded, *viz.* 100 *l.* and the Sum will be 335 *l.* 5 *s.* 7 *d.* 2 *q.* and that is the Fine which must be paid, to bring the Rent down to 10 *l.* a year.

Example 6.

There is 335 l. 5 s 7 d. 2 q. *demanded for a Fine, and* 10 l. *a year Rent for a House for* 21 *years, there is offered* 100 *l. Fine, and an increase of Rent proportionable to the abatement of the Fine, what must the Annual Rent be?*

THE difference between the Fine demanded, and the Fine offered is 235 *l.* 5 *s.* 7 *d.* 2 *q.* wherefore look in the several Columns of the Table against 21 years, till you find 235 *l.* 5 *s.* 7 *d.* 2 *q.* (or a sum very near it) and you shall find the very same sum to stand against 21 years, in the Columns under 20 *l.* a yeat; wherefore 20 *l.* a year must be advanced in the Rent, to bring the Fine down to 100 *l.* so that the Annual Rent must be 30 *l.* a year, and 100 *l.* Fine. Many more Uses might be made of this Table, but for the present let these suffice.

Here

Here followeth other

NECESSARY

TABLES

WITH

Their Uses;

SUITABLE

To all Mens Occasions.

Of Measures and Tables of Boards, Glass, Pavement, Timber, and Stone Measure, as also for Ganging of all manner of Casks ready cast up, and the Uses of them. Illustrated by Examples.

1 Of Measures.

MEasures which consist of length have their original from the *Barley Corn*, for by a statute made the of *Edward* the 3d. it was Enacted, that 3 *Barley Corns* taken out of the midle of the Eare dryed and laid end to end, should make one Inch, which is the smallest quantity that any Commodity is measured by: And so from the *Barley Corn*, are deduced these Measures following, *viz.*

3 Barley Corns	make one	Inch
12 Inches		Foot
3 Foot		Yard
3 Foot 9 Inches		Ell
16 Foot 6 Inches		Rod Pole or Perch,
40 Perches		Furlong
8 Furlongs		Mile.

And a mile is the greatest common measure used with us. And from these may be gathered, that in a mile are contained,

8 Furlongs.

8 Furlongs.
320 Perches.
5280 Feet.
63360 Inches
190080 Barley Corns

These are our common Measures for length only, but for things that are Measured by the square, as consisting of length and breadth, as Board, Glass, &c. by the Foot square; Timber and Stone by the Foot solid, which consisteth of length, breadth, and thickness. And in such Measures,

A Foot square contains 12 times 12 Inches, that is 144 Inches.

And a Foot solid contains 12 square Feet, that is 12 times 144, which is 1728 square Inches.

Also a Yard square contains 3 times 3 feet that is 9 square Feet.

And a Yard solid contains 3 times 9 square Feet, that is 27 square Feet.

But of the solid yard there is little or no use, only of the square Foot and square yard there is much, and of the Foot solid most of all; for by it is measured Timber, Stone, &c. as Board and Glass are by the Foot square.

Some

there is much, and of the Foot solid most of all, for by it is measured Timber, Stone, *&c.* as Board and Glass are by the Foot square.

Some Tables of Mensuration ready cast up.

THe Table following shall be a Table of *Flat* or *Superficial measure*, by which you may know how much in length of any *Board, Glass, Pavement*, or the like (of any breadth from one inch broad to 36 inches broad) doth make a *Square Foot*, which contains, as is aforesaid 144 square inches.

The Description of the TABLE.

THe Table consisteth of two Columns; the first towards the left hand containeth the breadth of any Plank, Board, Pane of Glass, Pavement, or the like, from one inch broad to 36 inches broad; and the second towards the right hand, sheweth what number of Feet, Inches, and 10th parts of an Inch, doth make a square Foot of that breadth; Examples will make the use of it plain.

A Table shewing how much in length of any Board, glass, Plank or Pavement doth make a Foot square, the breadth thereof being known.

The Breadth of the Board, Glass, or Pavement in Inches.

Inches.	The length of a Foot square. feet.	in.	pts.
1	12	0	0
2	6	0	0
3	4	0	0
4	3	0	0
5	2	4	8
6	2	0	0
7	1	8	6
8	1	6	0
9	1	4	0
10	1	2	4
11	1	1	1
12	1	0	0
13	0	11	9
14	0	10	3
15	0	9	6
16	0	9	0
17	0	8	5
18	0	8	0
19	0	7	6
20	0	7	2
21	0	6	8
22	0	6	5
23	0	6	2
24	0	6	0
25	0	5	8
26	0	5	5
27	0	5	3
28	0	5	1
29	0	5	0
30	0	4	8
31	0	4	7
32	0	4	5
33	0	4	4
34	0	4	2
35	0	4	1
36	0	4	0

The Use of this Table by Example.

Example. 1.

If a Plank be 23 Inches broad, how much thereof in length must go to make a square Foot?

Find 23 Inches in the first Column at the Table towards your left hand, and right against it you shall find 0. 6. 2, that is no Feet, but 6 Inches and 2 tenth parts of an Inch in length will make a Foot square. And so many times as 6 inches and 2 tenth parts is contained in the length of the Plank, so many Feet is there in the whole.

Thus if the Plank were 21 Foot long or 252 Inches, 6 Inches and 2 tenth parts would be found to be contained therein 40 times and two thirds; and so many Feet is there to that Plank.

Example. 2

Example 2.

If a Board be 9 Inches broad, how much in length will make a Foot?

SEek 9 inches in the first Column, and right against it in the second you shall find, that 1 Foot and 4 inches in length will make a Foot square. And so many times as 16 inches is contained in the length of the board, so many Feet doth it contain. And at the end every 8 inches is half a Foot, every 4 inches a quarter of a Foot, and 12 inches in length is 3 quarters of a Foot.

Example 3.

If a Foot-pace of Marble be 17 Inches broad, how much thereof will in length make a Foot?

SEek 17 inches in the first Column, and right against it you shall find 8 inches and 5 tenth parts will make a Foot square, that is 8 inches and a half.

A Table of Stone or Timber Measure.

THe Table following is a Table for the mensuration of any ſquared Stone or Timber, and conſiſteth of two Columns as the former Table did.

A Deſcription of the Table.

IN the firſt Column is the number of Inches, which the ſide of the ſquare of any piece of Timber is at the end, from 6 inches ſquare to 36 inches ſquare. And in the other Column, (that towards the right hand) is the number of Feet, inches and 10 parts of an inch, which do go to the making of a Foot ſquare of the ſame piece.

A table ſhewing how much in length of any Squared Stone, or Timber doth make a foot ſolid, the ſide of the Square at the end of the Piece being given in Inches.

Squar. Inches. The ſide of the Square of the Stone or Timber	Feet.	Inch,	Parts,
6	4	0	0
7	2	11	2
8	2	3	0
9	1	9	3
10	1	5	3
11	1	2	3
12	1	0	0
13	0	10	2
14	0	8	8
15	0	7	6
16	0	6	7
17	0	5	0
18	0	5	3
19	0	4	8
20	0	4	3
21	0	3	2
22	0	3	2
23	0	3	2
24	0	3	2
25	0	2	1
26	0	2	6
27	0	2	3
28	0	2	2
29	0	2	1
30	0	1	9
31	0	1	8
32	0	1	7
33	0	1	6
34	0	1	5
35	0	0	4
36	0	1	3

The Quantity of the length of a Foot in Feet Inches and fractions of Inches.

The Uſe of the Table by Examples.

Example 1.

If the ſide of the ſquare of any piece of Stone or Timber be 8 Inches, how much thereof in length will make a ſolid Foot?

SEek 8 inches, (which is the ſide of the ſquare) in the firſt Column of the Table, and in the ſecond towards your right hand, you ſhall find 2. 3. 0. which ſheweth, that 2 foot and 3 Inches in length thereof will make a foot ſolid. And ſee how many times 2 foot 3 inches is contained in the Tree, ſo many feet of Timber doth the Tree contain; and at the end if there be any odd meaſure, then 13 inches and a half is half a foot, and 6 inches 3 quarters is one quarter of a foot; and ſo of any other as in this.

Example 2

Example 2.

If the side of a squared Stone or piece of Timber be 26 Inches, how much thereof in length will make a solid Foot?

LOok for 26 Inches in the first column of the Table towards your left hand, and right against it towards your right hand, you shall find 0. 2. 6. which sheweth, that 2 inches and 6 tenth parts of an inch will make a solid foot.

A Table shewing how many Inches and hundred Parts of an inch, in length, of any round piece of Timber or Timber Tree, doth make a Foot Solid, the Girt or Circumference thereof being known, and that from 12 *Inches (or one Foot) about, to* 100 *Inches (or* 8 *Foot* 4 *Inches) about.*

The Length of a Solid Foot in

Compass in Inches.	Inches and 100 p Inches	pts.	Compass in Inches
11	179	46	41
12	150	80	42
13	125	49	43
14	110	79	44
15	94	31	45
16	84	82	46
17	75	14	47
18	67	02	48
19	60	15	49
20	54	29	50
21	49	23	51
22	44	86	52
23	40	90	53
24	37	69	54
25	34	74	55
26	32	12	56
27	29	79	57
28	27	70	58
29	25	82	59
30	24	13	60
31	22	60	61
32	21	21	62
33	19	92	63
34	18	78	64
35	17	74	65
36	16	76	66
37	15	86	67
38	15	04	68
39	14	28	69
40	13	57	70

The Compass of the Tree in Inches.

The Compass of the Tree in Inches.

The length of a solid Foot in

The Compass of the Tree in Inches.

Inches and 100 p Inches	pts.	Compass in Inches.	Inches and 100 p Inches	pts.
12	92	71	4	31
12	31	72	4	20
11	74	73	4	08
11	31	74	3	97
10	72	75	3	86
10	26	76	3	76
9	83	77	3	66
9	42	78	3	57
9	04	79	3	48
8	69	80	3	39
8	35	81	3	31
8	03	82	3	23
7	73	83	3	15
7	42	84	3	08
7	18	85	3	01
6	92	86	2	94
6	68	87	2	87
6	45	88	2	80
6	24	89	2	74
6	03	90	2	68
5	84	91	2	62
5	65	92	2	57
5	47	93	2	51
5	30	94	2	46
5	14	95	2	41
4	98	96	2	36
4	84	97	2	31
4	70	98	2	26
4	56	99	2	22
4	43	100	2	17

This Table needeth no Explanation, it is plain enough of it self: For if you find the Girt or Compass of the Tree in one Column, right against it in the next towards the right hand you have the length of a Foot Solid in Inches and 100 parts of Inches. So

			Inches	100 pts.	
A Tree being	20	Inches about	54	29	will make a Solid Foot of Timber.
	43		11	74	
	67		4	84	
	92		2	57	

Of Gauging

BEfore you can come to find the quantity of Gallons which any Cask containeth, you must first take the dimensions thereof in inches in three several places, *viz.* (1) The Diameter at the head or end of the Vessel, (2) The Diameter at the Boung, and (3) The length of the Vessel between the heads. These three dimensions being taken, you may find the content of the Vessel in Wine or Ale Gallons by help of the Tables following.

The

The Gauging TABLE.

Inches of the Diameter at the Vessels ——

Diam	---Head--- Gal.	parts.	-Boung-- Gal.	parts
1	0	001	0	002
2	0	004	0	009
3	0	010	0	020
4	0	018	0	036
5	0	028	0	056
6	0	041	0	081
7	0	056	0	111
8	0	072	0	145
9	0	092	0	183
10	0	113	0	226
11	0	137	0	274
12	0	163	0	326
13	0	192	0	383
14	0	222	0	444
15	0	255	0	510
16	0	290	0	580
17	0	328	0	557
18	0	367	0	734
19	0	409	0	818
20	0	453	0	906
21	0	500	1	000
22	0	548	1	097
23	0	600	1	199
24	0	653	1	305
25	0	708	1	416
26	0	766	1	532
27	0	826	1	692
28	0	888	1	777
29	0	953	1	906
30	1	020	2	040

The Gauging TABLE.

Inches of the Diameter at the Vessels—

Diam	--Head-- Gal.	parts.	--Boung.-- Gal	par.
31	1	089	2	178
32	1	160	2	321
33	1	234	2	468
34	1	310	2	620
35	1	388	2	776
36	1	469	2	938
37	1	551	3	102
38	1	636	3	272
39	1	724	3	448
40	1	813	3	625
41	1	904	3	809
42	2	000	4	000
43	2	096	4	191
44	2	194	4	388
45	2	295	4	588
46	2	398	4	796
47	2	504	5	007
48	2	611	5	222
49	2	721	5	442
50	2	833	5	665
51	2	948	5	895
42	3	065	6	129
53	3	184	6	367
54	3	305	6	609
55	3	428	6	856
56	3	554	7	108
57	3	682	7	364
58	3	813	7	624
59	3	945	7	890
60	4	080	8	160

The use of the Table by Example.

There is a Vessel whose Diameter at the head is 18 inches, its Diameter at the Boung 32 Inches, and the length thereof is 40 Inches. How many Wine Gallons doth this Vessel contain?

First look in the Table for 18 Inches the Diameter at the head, in the first Column, against which under the word *head* you shall find this number 0. 367 which set down as in the Example following.

Secondly, Look in the Table for 32 inches the diameter at the *Boung*, against which (under the word *Boung*) you shall find this number 2. 321, which set down under the former as in the Example you see. Then,

Thirdly, Draw a line and add these two numbers together, and you shall find the sum of them to be 2. 688.

Fourthly, Multiply this number by 40, the length of the Vessel, and the product of that Multiplication will be 107. 520.

Fifthly, Cut of the three last figures towards your right hand, and it will stand

thus

thus 107 l. 520. So the figures towards your left hand are 107 Gallons, and the 520 to your right hand are parts of a Gallon, which is somewhat above half a Gallon.

See the Example.

Diameter at the Head 18 Inches	0. 367
Diameter at the boung 32 inches	2. 321
Their Sum	2. 688
	40
Which multiplied by 40 the length produceth	107. 520

Example 2.

IF a Vessel be 15 Inches at the Head, and 22 inches at the Boung, and 32 inches Long, how many Gallons doth it contain.

Diameter at the Head 15 inches	0 .255
Diameter at the Boung 22 inches	1 .097
Their Sum	1. 352
	32
This Multiplied by the length 32 inches, produceth 43 Gallons and somewhat above a Quart.	2704
	4056
	43. 264

T

To reduce Wine Gallons into Ale Gallons.

THe Proportion between the Wine Gallon and the Ale Gallon is as 231 is to 282. Wherefore say by the Golden Rule,

As 282 Gallons of Ale is to 231 Gallons of Wine, so is any other number of Gallons of Wine, to the quantity of Ale Gallons required.

So that if you measure a Cask by the former Table and directions, and find it to contain 73 Gallons of Wine Measure, but you do desire to know how many Ale Gallons are therein contained; work by the Golden Rule thus,

As 282 to 231, so is 73 to 60 almost.

73
693
1617

282) 16863 ($59\frac{225}{282}$

1410
2763
2538
225

So that a Vessel which contains 73 Wine Gallons, will contain of Ale Measure almost 60 Gallons, wanting only a little above a Pint.

Con-

Concerning a Gauging Rod.

BEsides the Useful and necessary Tables of Interest and others of Mensuration and Gauging of the Authors. There is also a *Gauging Rod*, of his Contrivance, by him long since invented, and the uses of it published in print in half a sheet of Paper, for the use of himself, and some friends to whom he was pleased to communicate the uses of it unto; One of which papers coming to my hands, I could do no less then in this place insert, amongst the rest of his *Remains*, and the rather, because *Gauging* is now more in use then ever, and this paper of his never published in any other of his Works. The *Rod* is in it self plain, and in its use not only easie but exact also: It was formerly made (by his own directions) by Mr. *Anthony Thomson* in Hosier Lane near Smith-field, and now by his Servant Mr. *Edward Fage* living in *Salisbury Court* in *Fleet-street*.

The

The Description of the Gauge-Rod.

THe *Gauge-Rod* being three foot in length hath four Scales described upon it; The first is an ordinary scale of Inches numbred by the figures, 1, 2, 3, 4, &c. to 36, and subdivided into halfes, quarters, and eight parts, after the usual manner, which eighth parts are hereafter (for distinction sake) more particularly called *Eights*: The second (if you turn the rod towards you) is another scale of equal parts, thus framed, *viz.* by dividing each seven Inches into ten equal parts, until that whole scale be throughout so divided? And (that done) it seems to be nothing else, but another scale of Inches of a lesser volume and without figures: And each of those little Inches is again subdivided into lesser parts, in like sort as that other scale of Inches is subdivided: The third (still turning the Rod towards you, as before) is a scale of *Wine-measure*, first divided into great parts, representing *Wine-gallons*, and distinguished by the larger figure,

 1, 2 3,

1, 2, 3, & 4, ſet croſs the rod, and then each of thoſe great parts (or *Wine-gallons*) are ſubdivided into eight leſſer parts, repreſenting *Wine-pints*, and diſtinguiſhed by the leſſer figures, 1, 2, 3, 4, 5, 6, & 7, ſet longwiſe upon the Rod, and each of thoſe pints again ſubdivided into four leſſer parts, repreſenting quarters of a pint: The fourth and laſt is a ſcale of *Ale-meaſure*, divided into *Ale-gallons*, and afterwards ſubdivided into *Ale-pints*, and quarters, as that of *Wine-meaſure*.

The Uſe of the Gauge-Rod.

When the content of a Veſſel is required, by the help of this *Rod*, proceed thus:

1. *Meaſure the length of the veſſel by a ſcale of Inches, to the end you may know how many Inches it contains in length from head to head.*

2. *Place the lower end of the Rod (I mean, that end thereof, from which you begin to account the diviſions deſcribed thereupon) at the lower ſide of the head of the veſſel, within the rimm*

rimme thereof, close to the head; then (applying the Rod to the uppermost part of the head) move the brass cursor or ferol placed next that end of the Rod, so high or low, that the uppermost end of that ferol may touch the inside of the uppermost part of the vessels rimme, in such sort that the space comprehended betwixt the lower end of the Rod and the uppermost part of that ferol, may contain the (Diameter *or) largest breadth of the vessel at the head.*

3. *Having let down the Rod into the Vessel at the Boung so far, that the lower end thereof may rest upon the lower side of the vessel, and may stand (perpendicularly,* viz. *) as upright as may be in the vessel; fit and justifie the lower end of the other ferol with the inside of the Vessel at the Boung.*

4. *Then taking out the Rod, observe and count upon the scale of Inches the eights that you find comprehended betwixt the ferols, and having counted as many eights upon the other scale of lesser Inches from the lower ferol towards the uppermost, remove the uppermost ferol towards the lower, until the lower or inward end thereof may cut the eights so last counted.*

5. *All this performed, the lower or inward end of the uppermost ferol sheweth how much each*

Inch of the Vessels length contains Gallons, Pints, and Quarters of a pint, that is to say, upon the scale of Wine measure, *the Gallons, Pints, and Quarters, according to that measure, and upon the scale of* Ale-measure, *the like according to that. And therefore if you multiply the Gallons, Pints, and Quarters so found, by the number of Inches contained in length of Vessel, the result and product will give the content you look for.*

Example, Admit the Vessel propounded happens to be 32 Inches long, and the uppermost end of the lower ferol to cut the scale of Inches at 21 inches and a half, being the (*Diameter* or) breadth of the head, and the lower end of the other ferol to cut the same scale at 24 inches and a half, being the (*Diameter* or) breadth at the boung; In this case I find upon the scale of inches 24 *eights* to be comprehended upon that scale, betwixt the two ferolls; and therefore counting upon the scale of little inches of many *eights* (that is 24) from the lower ferol towards the other, if unto that point I bring down the lower end of the uppermost ferol, that end upon the scale of *Wine-measure* will cut 1 Gallon, 7 pints, and a quarter of a pint: Now therefore to find the

the content of the Veſſel in *Wine-meaſure*, (the length of the Veſſel being 32 inches) I firſt write down 32 Gallons, then 7 pints, and a quarter of a pint being reduceable to 1 Pottle, one quart, one pint, and a quarter of a pint, for 32 pottles I ſet down 16 Gallons, again for 32 quarts 8 Gallons, for 32 pints 4 Gallons, and for 32 quarters of a pint 1 Gallon: This done the whole reſult or product will amount to 61 gallons in *Wine-meaſure*, the content required, as more plainly appears by the addition of the numbers annexed.

The ſame Direction ſerves for the due finding out of the content of a Veſſel according to *Ale-meaſure*, if inſtead of the ſcale of *Wine-meaſure* you uſe that of *Ale-meaſure*: And ſo in the ſame caſe, that Veſſel in *Ale-meaſure* will contain 49 *Gallons*: For the lowermoſt end of the uppermoſt Ferql cuts one *Gallon*, one pottle, and a quarter of a pint, which being caſt up, as in the caſe of *Wine-meaſure*, the reſult will be 49 *Gallons*, as appears by the example in the margent.

Gal.	32.
	16.
	8.
	4.
	1.
	61.

Gal.	32.
	16.
	1.
	49.

When the length of the Veſſel happens

 not

not to be intire inches, but certain inches and a fraction, as 32 inches and a *quarter*, an *half*, or *three quarters* of an inch; then adde to the content found by the length in intire inches, a *quarter*, an *half*, or *three quarters* of the content found upon the rod; as in the first *Example*, a *quarter* of a gallon (or a Quart) a *quarter* of a pottle, a *quarter* of a quart, a *quarter* of a pint, and a *quarter* of a quarter of a pint; And so likewise an *half* or *three quarters*, according as the fraction of the length (besides the intire inches) shall fall out to be.

A Table

A Table shewing the length of one Rod of Wall in Feet and Inches, the Wall being of any height from one foot to thirty foot.

The Height of the Wall.	The Length of one Rod.	
Feet.	Feet.	Inch.
1	272	6
2	136	3
3	90	10
4	68	1
5	54	6
6	45	5
7	38	11
8	34	0
9	30	3
10	27	3
11	24	9
12	22	8
13	20	11
14	19	5
15	18	2
16	17	0
17	16	0
18	15	1
19	14	4
20	13	7
21	12	11
22	12	4
23	11	10
24	11	4
25	10	10
26	10	5
27	10	1
28	9	8
29	9	4
30	9	1

The Use of this Table by Example.

Example 1.

A Brick-Wall being 17 foot high, How much thereof in length must go to make a Square Rod?

FInd 17 in the first Column of the Table on the left-hand, and against it in the second Column you shall find 16 foot, and so much will make a Square Rod.

Example 2.

A Wall being 7 foot high, How much in length makes a Rod?

SEek 7 in the first Column, and against it in the second is 38 foot and 11 inches, and so much in length there must be to make a Square Rod.

And thus, a Wall being

Foot		*Foot*	*Inch.*	
5	Foot high will Require	54	6	to make a Square Rod.
11		24	9	
19		14	4	
24		11	4	
29		9	5	

This

This is to be underſtood when Walls are one brick and a half thick, which is the Standard for the thickneſs of all Brick-work; wherefore if a Wall be three Bricks thick; then half the length found in the Table makes a Rod; and ſix bricks thick one quarter: and ſo you muſt abate proportionably of the length found in the Table, when a wall exceeds one Brick and an half in thickneſs, and diminiſh when it is leſs then Brick and half thick; as a wall one Brick thick requires the length found in the Table, and half as much more to make a Rod; and half a brick thick requires three times the length.

Other

Other wayes to Reduce Brick-work.

WHen by a Rule or Rod you have taken the length and breadth of any Wall, you must then multiply the one by the other, and the Product will shew how many superficial Feet is contained in the surface of the same Wall.

Then consider how many Bricks thick the same wall is, and by the number of half Bricks which the Wall is in thickness, multiply the number of Feet before found, and one third part of that number is the quantity of Solid Feet contained in the same Wall; which number being divided by 272 (or rather by 272 and a quarter) the Quotient will be the quantity which the same Wall containeth, it being reduced to Brick and half thick; which is the standard for Brick-work as aforesaid.

Example, If a Wall be 57 Foot and an half long, and 23 Foot and a quarter high, and 4 Bricks and a half thick:

First, Multiply 57 and a half the length, by 23 and a quarter the height, the Product will be 1336 Foot and 10 Inches, which you may (without prejudice) call 1337 Foot.

Secondly, The wall being 4 Bricks and an half thick, (that is 9 half Bricks) multiply the same 1337 by 9, and the Product will be 12033, one third part whereof is 4011; and so many Feet doth the Wall contain, it being reduced to Brick and half.

Thirdly, Divide 4011 by 272, and the Quotient will be 14 Rod and 203 Foot remaining, which remainer divide by 68 (which is a quarter of a Rod) and the Quotient will be 3 quarters of a Rod wanting one Foot. And so the whole Wall reduced, contains 14 Rod 3 quarters, wanting one Foot.

But part of this labour may be (in some cases) saved, for

If a Wall be	3	Bricks thick then multiply the feet contained therein by	2	and it will be reduced.
	4 and a half		3	
	6		4	
	7 and a half		5	
	9		6	
	10 and a half		7	
	12		8	

And so in the former example the Wall containing 1337 Foot upon the Superficies, and being 4 Bricks and half thick, if you multiply 1337 by 3, the Product will be 4011 as before.

A Table

A
TABLE
OF
ACCOUNTS,

Ready cast up, for the Buying or Selling of any Commodity; either by number, weight, or measure, &c. Resolving the most usual Questions of the golden Rule, or Rule of three by inspection (or with the greatest trouble, by addition) only.

The Price of the Commodity by the Tun, Hundred Pound, Ounce, Dozen, Yard, Ell, &c.

Number.	1 Farthing. l.	s.	d.	q.	2 Farthings. l.	s.	d.	q.	3 Farthings l.	s.	d.	q.
1	0	0	0	1	0	0	0	2	0	0	0	3
2	0	0	0	2	0	0	1	0	0	0	1	2
3	0	0	0	3	0	0	1	2	0	0	2	1
4	0	0	1	0	0	0	2	0	0	0	3	0
5	0	0	1	1	0	0	2	2	0	0	3	3
6	0	0	1	2	0	0	3	0	0	0	4	2
7	0	0	1	3	0	0	3	2	0	0	5	1
8	0	0	2	0	0	0	4	0	0	0	6	0
9	0	0	2	1	0	0	4	2	0	0	6	3
10	0	0	2	2	0	0	5	0	0	0	7	2
20	0	0	5	0	0	0	10	0	0	1	3	0
30	0	0	7	2	0	1	3	0	0	1	10	2
40	0	0	10	0	0	1	8	0	0	2	6	0
50	0	1	0	2	0	2	1	0	0	3	1	2
60	0	1	3	0	0	2	6	0	0	3	9	0
70	0	1	5	2	0	2	11	0	0	4	4	2
80	0	1	8	0	0	3	4	0	0	5	0	0
90	0	1	10	2	0	3	9	0	0	5	7	2
100	0	2	1	0	0	4	2	0	0	6	3	0
200	0	4	2	0	0	8	4	0	0	12	6	0
300	0	6	3	0	0	12	6	0	0	18	9	0
400	0	8	4	0	0	16	8	0	1	5	0	0
500	0	10	5	0	1	0	10	0	1	11	3	0
600	0	12	6	0	1	5	0	0	1	17	6	0
700	0	14	2	0	1	9	2	0	2	3	9	0
800	0	16	4	0	1	13	4	0	2	10	0	0
900	0	18	9	0	1	17	6	0	2	16	3	0
1000	1	0	10	0	2	1	8	0	3	2	6	0
2000	2	1	8	0	4	3	4	0	6	5	0	0
3000	3	2	6	0	6	5	0	0	9	7	6	0
4000	4	3	4	0	8	6	8	0	12	10	0	0
5000	5	4	2	0	10	8	4	0	15	12	6	0
10000	10	8	4	0	20	16	8	0	31	5	0	0

The quantity of the Commodity to be bought or Sold.

The Price of the Commodity by the Tun, Hundred, Pound, Ounce, Dozen, Yard, Ell, &c.

The Quantity of the Commodity to be bought or sold.

Number.	1 Peny.			2 Pence.			3 Pence.		
	l.	s.	d.	l.	s.	d.	l.	s.	d.
1	0	0	1	0	0	2	0	0	3
2	0	0	2	0	0	4	0	0	6
3	0	0	3	0	0	6	0	0	9
4	0	0	4	0	0	8	0	1	0
5	0	0	5	0	0	10	0	1	3
6	0	0	6	0	1	0	0	1	6
7	0	0	7	0	1	4	0	1	9
8	0	0	8	0	1	4	0	2	0
9	0	0	9	0	1	6	0	2	3
10	0	0	10	0	1	8	0	2	6
20	0	1	8	0	3	4	0	5	0
30	0	2	6	0	5	0	0	7	6
40	0	3	4	0	6	8	0	10	0
50	0	4	2	0	8	4	0	12	6
60	0	5	0	0	10	0	0	15	0
70	0	5	10	0	11	8	0	17	6
80	0	6	8	0	13	4	1	0	0
90	0	7	6	0	15	0	1	2	6
100	0	8	4	0	16	8	1	5	0
200	0	16	8	1	13	4	2	10	0
300	1	5	0	2	10	0	3	15	0
400	1	13	4	3	6	8	5	0	0
500	2	1	8	4	3	4	6	5	0
600	2	10	0	5	0	0	7	10	0
700	2	18	4	5	16	8	8	15	0
800	3	6	8	6	13	4	10	0	0
900	3	15	0	7	10	0	11	5	0
1000	4	3	2	8	6	8	12	10	0
2000	8	6	8	16	13	4	25	0	0
3000	12	10	0	25	0	0	37	10	0
4000	16	13	4	33	6	8	50	0	0
5000	20	16	8	41	13	4	62	10	0
10000	41	13	4	83	6	0	125	0	0

The Price of the Commodity by the Tun, Hundred, Pound, Ounce, Dozen, Yard, Ell, &c.

The quantity of the Commodity to be bought or Sold.

Number.	4 Pence.			5 Pence			6 Pence.		
	l.	s.	d.	l.	s.	d.	l.	s.	d.
1	0	0	4	0	0	5	0	0	6
2	0	0	8	0	0	10	0	1	0
3	0	1	0	0	1	3	0	1	6
4	0	1	4	0	1	8	0	2	0
5	0	1	8	0	2	1	0	2	6
6	0	2	0	0	2	6	0	3	0
7	0	2	4	0	2	11	0	3	6
8	0	2	8	0	3	4	0	4	0
9	0	3	0	0	3	9	0	4	6
10	0	3	4	0	4	2	0	5	0
20	0	6	8	0	8	4	0	10	0
30	0	10	0	0	12	6	0	15	0
40	0	13	4	0	16	8	1	0	0
50	0	16	8	1	0	10	1	5	0
60	1	0	0	1	5	0	1	10	0
70	1	3	4	1	9	2	1	15	0
80	1	6	8	1	13	4	2	0	0
90	1	10	0	1	17	6	2	5	0
100	1	13	4	2	1	8	2	10	0
200	3	6	8	4	3	4	5	0	0
300	5	0	0	6	5	0	7	10	0
400	6	13	4	8	6	8	10	0	0
500	8	6	8	10	8	4	12	10	0
600	10	0	0	12	10	0	15	0	0
700	11	13	4	14	11	8	17	10	0
800	13	6	8	16	13	4	20	0	0
900	15	0	0	18	15	0	22	10	0
1000	16	13	4	20	16	8	25	0	0
2000	33	6	8	41	13	4	50	0	0
3000	50	0	0	62	10	0	75	0	0
4000	66	13	4	83	6	8	100	0	0
5000	83	6	8	104	3	4	125	0	0
10000	166	13	4	208	6	8	250	0	0

The Quantity of the Commodity to be bought or sold.

Number.	7 Pence l.	s.	d.	8 Pence. l.	s.	d.	9 Pence. l.	s.	d.
1	0	0	7	0	0	8	0	0	9
2	0	1	2	0	1	4	0	1	6
3	0	1	9	0	2	0	0	2	3
4	0	2	4	0	2	8	0	3	0
5	0	2	11	0	3	4	0	3	9
6	0	3	6	0	4	0	0	4	6
7	0	4	1	0	4	8	0	5	3
8	0	4	8	0	5	4	0	6	0
9	0	5	3	0	6	0	0	6	9
10	0	5	10	0	6	8	0	7	6
20	0	11	8	0	13	4	0	15	0
30	0	17	6	1	0	0	1	2	6
40	1	3	4	1	6	8	1	10	0
50	1	9	2	1	13	4	1	17	6
60	1	15	0	2	0	0	2	5	0
70	2	0	10	2	6	8	2	12	6
80	2	6	8	2	13	4	3	0	0
90	2	12	6	3	0	0	3	7	6
100	2	18	4	3	6	8	3	15	0
200	5	16	8	6	13	4	7	10	0
300	8	15	0	10	0	0	11	5	0
400	11	13	4	13	6	8	15	0	0
500	14	11	8	16	13	4	18	15	0
600	17	10	0	20	0	0	22	10	0
700	20	8	4	23	6	8	26	5	0
800	23	6	8	26	13	4	30	0	0
900	26	5	0	30	0	0	33	15	0
1000	29	3	4	33	6	8	37	10	0
2000	58	6	8	66	13	4	75	0	0
3000	87	10	0	100	0	0	112	10	0
4000	116	13	4	133	6	5	150	0	0
5000	145	16	8	166	13	4	187	10	0
10000	291	13	4	233	6	8	375	0	0

The Quantity of the Commodity to be bought or Sold.

Number.	10 Pence. l.	s.	d.	11 Pence. l.	s.	d
1	0	0	10	0	0	11
2	0	1	8	0	1	10
3	0	2	6	0	2	9
4	0	3	4	0	3	8
5	0	4	2	0	4	7
6	0	5	0	0	5	6
7	0	5	10	0	6	5
8	0	6	8	0	7	4
9	0	7	6	0	8	3
10	0	8	4	0	9	2
20	0	16	8	0	18	4
30	1	5	0	1	7	6
40	1	13	4	1	16	8
50	2	1	8	2	5	10
60	2	10	0	2	15	0
70	2	18	4	3	4	2
80	3	6	8	3	13	4
90	3	15	0	4	2	6
100	4	3	4	4	11	8
200	8	6	8	9	3	4
300	12	10	0	13	15	0
400	16	13	4	18	6	8
500	20	16	8	22	18	4
600	25	0	0	27	10	0
700	29	3	4	32	1	8
800	33	6	8	36	13	4
900	37	10	0	41	5	0
1000	41	13	4	45	16	8
2000	83	6	8	91	13	4
3000	125	0	0	137	10	0
4000	166	13	4	183	6	8
5000	208	6	8	229	3	4
10000	416	13	4	458	6	8

The Price of the Commodity by the Tun, Hundred Pound, Ounce, Dozen, Yard, Ell, &c.

The quantity of the Commodity to be bought or Sold.

Number.	1 Shilling.		2 Shillings		3 Shillings.	
	l.	s.	l.	s.	l.	s.
1	0	1	0	2	0	3
2	0	2	0	4	0	6
3	0	3	0	6	0	9
4	0	4	0	8	0	12
5	0	5	0	10	0	15
6	0	6	0	12	0	18
7	0	7	0	14	1	1
8	0	8	0	16	1	4
9	0	9	0	18	1	7
10	0	10	1	0	1	10
20	1	0	2	0	3	0
30	1	10	3	0	4	10
40	2	0	4	0	6	0
50	2	10	5	0	7	10
60	3	0	6	0	9	0
70	3	10	7	0	10	10
80	4	0	8	0	12	0
90	4	10	9	0	13	10
100	5	0	10	0	15	0
200	10	0	20	0	30	0
300	15	0	30	0	45	0
400	20	0	40	0	60	0
500	25	0	50	0	75	0
600	30	0	60	0	90	0
700	35	0	70	0	105	0
800	40	0	80	0	120	0
900	45	0	90	0	135	0
1000	50	0	100	0	150	0
2000	160	0	200	0	300	0
3000	150	0	300	0	450	0
4000	200	0	400	0	600	0
5000	250	0	500	0	750	0
10000	500	0	1000	0	1500	0

The Quantity of the Commodity to be bought or sold,

Number.	4 Shillings. l.	s.	5 Shillings. l.	s.	6 Shillings. l.	s.
1	0	4	0	5	0	6
2	0	8	0	10	0	12
3	0	12	0	15	0	18
4	0	16	1	0	1	4
5	1	0	1	5	1	10
6	1	4	1	10	1	16
7	1	8	1	15	2	2
8	1	12	2	0	2	8
9	1	16	2	5	2	14
10	2	0	2	10	3	0
20	4	0	5	0	6	0
30	6	0	7	10	9	0
40	8	0	10	0	12	0
50	10	0	12	10	15	0
60	12	0	15	0	18	0
70	14	0	17	10	21	0
80	16	0	20	0	24	0
90	18	0	22	10	27	0
100	20	0	25	0	30	0
200	40	0	50	0	60	0
300	60	0	75	0	90	0
400	80	0	100	0	120	0
500	100	0	125	0	150	0
600	120	0	150	0	180	0
700	140	0	175	0	210	0
800	160	0	200	0	240	0
900	180	0	225	0	270	0
1000	200	0	250	0	300	0
2000	400	0	500	0	600	0
3000	600	0	750	0	900	0
4000	800	0	1000	0	1200	0
5000	1000	0	1250	0	1500	0
10000	2000	0	2500	0	3000	0

The Price of the Commodity by the Tun, Hundred, Pound, Ounce, Dozen, Yard, Ell, &c.

The Quantity of the Commodity to be bought or sold.

Number	7 Shill l.	s.	8 Shill. l.	s.	9 Shill. l.	s.	10 Shill. l.	s.
1	0	7	0	8	0	9	0	10
2	0	14	0	16	0	18	1	0
3	1	1	1	4	1	7	1	10
4	1	8	1	12	1	16	2	0
5	1	15	2	0	2	5	2	10
6	2	2	2	8	2	14	3	0
7	2	9	2	16	3	3	3	10
8	2	16	3	4	3	12	4	0
9	3	3	3	12	4	1	4	10
10	3	10	4	0	4	10	5	0
20	7	0	8	0	9	0	10	0
30	10	10	12	0	13	10	15	0
40	14	0	16	0	18	0	20	0
50	17	10	20	0	22	10	25	0
60	21	0	24	0	27	0	30	0
70	24	10	28	0	31	10	35	0
80	28	0	32	0	36	0	40	0
90	31	10	36	0	40	10	45	0
100	35	0	40	0	45	0	50	0
200	70	0	80	0	90	0	100	0
300	105	0	120	0	135	0	150	0
400	140	0	160	0	180	0	200	0
500	175	0	200	0	225	0	250	0
600	210	0	240	0	270	0	300	0
700	245	0	280	0	315	0	350	0
800	280	0	320	0	360	0	400	0
900	315	0	360	0	405	0	450	0
1000	350	0	400	0	450	0	500	0
2000	700	0	8 0	0	900	0	1000	0
3000	1050	0	1200	0	1350	0	1500	0
4000	1400	0	1600	0	1800	0	2000	0
5000	1750	0	2000	0	3250	0	2500	0
10000	8500	0	4000	0	4500	0	5000	0

The Price of the Commodity by the Tun, Hundred Pound, Ounce, Dozen, Yard, Ell, &c.

The Quantity of the Commodity to be bought or sold.

Number.	1 Lib	2 Lib.	3. Lib	4 Lib.	5 Lib.
	l.	l.	l.	l.	l.
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25
6	6	12	18	24	30
7	7	14	21	28	35
8	8	16	24	32	40
9	9	18	27	36	45
10	10	20	30	40	50
20	20	40	60	80	100
30	30	60	90	120	150
40	40	80	120	160	200
50	50	100	150	200	250
60	60	120	180	240	300
70	70	140	210	280	350
80	80	160	240	320	400
90	90	180	270	360	450
100	100	200	300	400	500
200	200	400	600	800	1000
300	300	600	900	1200	1500
400	400	800	1200	1600	2000
500	500	1000	1500	2000	2500
600	600	1200	1800	2400	3000
700	700	1400	2100	2800	3500
800	800	1600	2400	3200	4000
900	900	1800	2700	3600	4500
1000	1000	2000	3000	4000	5000
2000	2000	4000	6000	8000	10000
3000	3000	6000	9000	1200	15000
4000	4000	8000	1200	1600	20000
5000	5000	10000	15000	20000	25000
10000	10000	20000	30000	40000	50000

A Description, and some Uses, of this Table of Accounts.

A Description of the Table.

THe Table consisteth of several Pages, and in each page, the first Column towards the left hand, contains the *Quantity* of any Commodity bought or sold, from one Pound, one Yard, one Ell, one Dozen, one Peck, one Bushel, one pipe, one Barrel, one Gallon or the like, to ten Thousand pounds, Yards, Ells, Pecks, &c. in this Order, the Column beginning with 1, 2, 3, &c. to 9. then 10, 20 30, &c. to 90, then 100, 200, 300, &c. to 900, then 1000, 2000, 3000, 4000, 5000, and 10000, at the bottom of each first Column, by the side of which Column are Printed these words [*the Quantity of the Commodity to be bought or sold.*]

At the Top of the Table is the *Price* of any Commodity, from one Farthing the Pound, Yard, Ell, Bushel, &c. to five pounds the Yard, Ell, Pound, Gallon, &c. in this Order.

Over the first Column is 1 farthing, over the

the ſecond 2 Farthings, and over the third 3 Farthings, the Pound, Yard, &c.

Then 1 Peny, 2 pence, 3 pence, &c. to 11 pence, the Pound, Yard, &c.

Then 1 Shilling, 2 ſhillings, 3 ſhillings, &c. to 10 ſhillings, the Pound, Yard, Ell, Gallon, &c.

Laſtly, 1 Pound, 2 pound, 3 pound, 4 pound, 5 pound: the Yard, Ell, Buſhel, &c.

At the head of each page theſe words being Printed [*The Price of the Commodity bought or ſold.*]

Thus much for the Deſcription of the Table ſome of the manifold uſes thereof follow: and Note that for

Pounds Shillings Pence Farthings	is Printed	l. s. d. q.

Some *Uſes* of this Table.

THe Table is of ſuch general uſe that it may be applyed almoſt to any thing that concerns buying, ſelling, or Retailing of Commodities either with Gain or Loſs, the

Uses indeed are so manifold that a volumn might be written of the uses of it, I shall instance in some of the most useful and general, which whosoever rightly knows how to perform, he may apply the Table to what (in his imploy) he hath chief use to make of it, but to avoid many words,

Usus optimus Magister.

And the uses of this Table will best appear by Examples, and resolving Questions thereby.

Quest. 1.

At 1 q. *the Pound, what will* 70 *Pound Weight come to?*

Look in the Table (in that Column that hath 1 Farthing at the head thereof and against 70 (the number of pounds to be bought) in the first Column of that page towards the left-hand you shall find 0 *l.* 1 *s.* 5 *d.* 2 *q.* and so much will 70 Pound weight cost at 1 farthing the pound.

And

And so shall you find that,

		l.	s.	d.	q.
7	Pound weight,	0	0	1	3
30	Ounces, Pints,	0	0	7	2
700	&c. at 1 farth-	0	14	7	0
4000	ing the pound	4	3	4	0
10000	will come to	10	8	4	0

And what is here said of 1 Farthing, the pound, &c. the like is to be understood of 2 Farthings, 3 Farthings, 1 peny, 2 pence, &c. 1 shilling, 2 shillings, 3 shillings, &c 1 pound, 2 pound, &c. As by the following Questions will appear.

Quest. 2.

At 5 d the Yard, what will 200 *Yards amount to?*

Look in the Column of the Table that hath 5 pence at the head thereof, and against 200 (in the first Column you shall find 4 *l.* 3 *s.* 4 *d.* and so much will 200 yards come to at 5 *d.* the yard.

And

And so in the same Column you may find that,

		l.	*s.*	*d.*
9	yards at 5 *d.* the yard will come to	0	3	9
50		1	0	10
800		16	13	4
3000		62	10	0
10000		208	6	8

Quest. 3.

At 3 l. *the Tun, what will* 80 *Tun amount unto?*

Seek 3 pound at the head of the Table, and against 80 in the first Column you shall find 240 pound, and so much will 80 Tun Cost, In like manner, At

l.		*Tun*		*l.*
2	the Tun	60	will come to	0120
4		400		1600
5		900		4500
10		80		0800

Quest. 4.

If I buy 30 *Pints for* 1 s. 10 d. 2 q. *what is that a Pint?*

Look for 30 (the number of Pints bought)

bought) in the first Column towards the left hand, then cast your eye a long that line (towards your right hand) till you find the Sum of money which your Pints cost, namely 1 s. 10 d. 2 q. which Sum you will find in the third Column from the first, at the head whereof stands three farthings; So that each Pint cost three Farthings.

Quest. 5.

If 50. *Quarts of Wine, cost me* 1 l. 17 s. 6 d. *what is that a Quart?*

Look for 50. in the first Column of the Table, then cast your eye on the other Columns in that line in which 50 stands, till you find in that line 1 *l.* 17 *s.* 6 *d.* which when you have found, look what Sum stands at the top of the Column, for that is the price of the Quart.

So in your Example 1 *l.* 17 *s.* 6 *d.* will be found to stand against 50. (in the first Column) in that Column that hath 9 *d.* at the head thereof; So that 9 *d.* is the price of one quart.

And so you may find that,

			Coſt me			One ſtands me in
			l.	*s.*	*d.*	
If	800	Yards of Tape	0	16	8	1 *q.*
	60	Braſs Nails	0	3	9	3 *q.*
	500	Pound of Suger	8	6	8	4 *d.*
	40	Yards of Baile	1	13	4	10 *d.*
	9	Gallons of wine	1	16	0	4 *s.*
	800	Ells of Holland	360	0	0	9 *s.*
	1000	Books	41	13	4	10 *s.*

Queſt. 6.

A Retailer buyes 700 *Pound weight of Sugar, which coſt him* 11 l. 13 s. 4 d. *by the ſelling of which, by Retail, he is reſolved to gain* 8 l. 15. *at what price by the Pound muſt he ſell his Sugar to make that profit ?*

	l.	*s.*	*d.*
The Sugar coſt him ———— ————	11	13	4
To which add the profit he would make	8	15	0
The Sum is ——— ——— ——— ———	20	8	4

Now the queſtion will be,

If 700 *Pound Weight of Sugar, coſt* 20 l. 8 s. 4 d. *what is that the Pound weight ?*

Look in the firſt Column of the Table for 700, and turn over the leaves till you find 20 *l.* 8 *s.* 4 *d.* ſtand againſt 700, which ſum of 20 *l.* 8 *s.* 4 *d.* you ſhall find

to

to ſtand againſt 700 in that Column that hath 7 Pence at the head; ſo that if he ſell his 700 Pound of Sugar for 7 *d.* the Pound, he will gain by his Parcel 8 *l.* 15 *s.*

Theſe and ſuch like queſtions, where the real number, both of the Price, and alſo of the quantity of the Commodity bought or ſold are found in the Table, and are, you ſee, reſolved without the help of *Pen*, *Ink*, and *Paper*, (by inſpection only) but thoſe which follow, where either the real number of the quantity, or the real ſum of the price (or both) cannot be found exactly in the Table, then the aſſiſtance of Addition (which every man almoſt can perform) will be required, as by the following queſtions will appear.

Queſt, 7.

At 5 d. *the Pound, what will* 735 *Pound amount to?*

Look in the Column that hath 5 pence at the head thereof, and you ſhall find that at 5 *d.* the pound weight,

		l.	*s.*	*d.*
700	Pounds weight will come to	14	11	8
30		00	12	6
5		00	2	1
735	In all—	15	6	3

So that 735 Pound, at 5 *d.* the pound will come to 15 *l.* 6 *s.* 3 *d.*

Queſt. 8.

At 4 *s. the Ream, what ſhall* 6483 *Reams come to?*

Look into the Column of 4 *s.* and you ſhall find that

5000	Reams will come to	1000	0	0
1000		200	0	0
400		80	0	0
80		16	0	0
3		0	12	0
6483		1296	12	0

Theſe two laſt queſtions are ſuch where the real quantity to be bought or ſold could not

not be found in the Table in one entire Sum, the like course (by addition) must be taken when the real price cannot be found in one entire Sum, as in these questions following.

Quest. 9.

At 7 d. 3 q. *the quart, what will* 200 *quarts, or* 50 *gallons amount unto?*

Look in the Column of 7 pence, and you shall find that,

			l.	s.	d.
200 quarts at	7 *d.*	comes to	5	16	8
	3 *q.*		0	12	6
		In all	6	9	2

So that at 7 *d.* 3 *q.* the quart 200 quarts or 50 gallons will amount unto 6 *l.* 9 *s.* 2 *d.*

Quest. 10.

At 7 l. 17 s. 9 d. 1 q. *the hundred weight of any commodity, what will nine hundred weight come to?*

Nine

	l.	s.	d.	q.		l.	s.	d.	q.
Nine Hundred weight at.	5	0	0	0	comes to	45	0	0	0
	2	0	0	0		18	0	0	0
	0	10	0	0		4	10	0	0
	0	7	0	0		3	3	0	0
	0	0	9	0		0	6	9	0
	0	0	0	1		0	0	2	1
	7	17	9	1		70	19	11	1

These two last questions are such where the real price of the Commodity could not be exactly found in the Table in one Sum, the questions following shall be such where neither price nor quantity can be exactly found in the Table in one Sum, and in them are all the varieties that can be proposed.

Quest. 10.

At 7 s. 3 d. *the Yard, What will* 37 *Yards come to?*

Yards				l.	s.	d.
30	at	7 Shillings	the Yard comes to.	10	10	0
30		3 Pence		0	7	6
7		7 Shillings		2	9	0
7		3 Pence		0	1	9
			In all	13	8	3

Quest.

Quest. 11.

At 5 l. 19 s. 11 d. 3 q. *the Tun, What will 162 Tun come to?*

		l.	s.	d.	q.		l.	s.	d.	q.
100							500	0	0	0
60		5	0	0	0		300	0	0	0
2							10	0	0	0
100							50	0	0	0
60		0	10	0	0		30	0	0	0
2							1	0	0	0
100							45	0	0	0
60	at	0	9	0	0	comes to	27	0	0	0
2							0	18	0	0
100							4	11	8	0
60		0	0	11	0		2	15	0	0
2							0	1	10	0
100							0	6	3	0
60							0	3	9	0
2		0	0	0	3		0	0	1	2
162		5	19	11	3		971	16	7	2

But

But this queſtion it being as intricate as I could put, may be much abreviated; for 5 *l.* 19 *s.* 11 *d.* 3 *q.* wants but 1 *q.* of 6. Pound, wherefore if you compute what 162 Tun will amount unto at 6 *l.* the Tun, and from the ſum thereof ſubſtract what 162 Tun at 1 *q.* the Tun will amount unto, the remainder will anſwer the queſtion. As in the following work.

Tun		*l.*	*s.*	*d.*	*q.*		*l.*	*s.*	*d.*	*q.*
100							500	0	0	0
60	At	5	0	0	0		300	0	0	0
2						comes to	10	0	0	0
162	At	1	0	0	0		162	0	0	0
						In all —	972	0	0	0

Tun						
100			0	3	1	0
60	at 3 *q.* *per* Tun	comes to	0	1	3	0
2			0	0	0	2
This ſubſtracted from 972 *l.* —			0	2	4	2
Leaves ————————			971	16	7	2

As before, and above half of the Labour ſaved.

Queſt

Quest. 12.

If 1000 *Books, Paper, Printing, and all other incident charges, stand me in* 245 l. 16 s. 8 d. *at what rate must I sell these Books by Retail, that I may make* 30 l. *in the* 100 l. *profit of my money laid out?*

To the 245 *l.* 16 *s.* 8 *d.* add the profit required, that is for the 200 *l.* 60 *l.* profit, and for the 45 *l.* 16 *s.* 8 *d.* say 14 *l.* (which is somewhat too much, but it will signifie little in this case:) these added together make 319 *l.* 16 *s.* 8 *d.* As appears.

	l.	*s.*	*d.*
The Impression cost ——	245	16	8
Profit for the 200 *l.* ——	60	0	0
Profit for the 45 *l.* 16 *s.* 8 *d*	14	0	0
In all —	319	16	8

Now the Question will be,
If 1000 *Books cost (or amount to)* 319 *l.* 16 *s.* 8 *d. What is that a Book?*

Look in the Columns of the Table, till you find the nearest sum (which is less)

to 319 *l.* 16 *s.* 8 *d.* to ſtand againſt 1000, thus turning over the Table, you ſhall find 300 *l.* to ſtand againſt 1000, in that Column that hath 6 *s.* at the head thereof, which 300 *l.* and 6 *s.* ſet down, as you ſee is done in the Example following. Then there remains 19 *l.* 16 *s.* 8 *d.* Look in the Column of the Table againſt 1000, till you find the neareſt Sum to 19 *l.* 16 *s.* 8 *d.* which you ſhall find to be 16 *l.* 13 *s.* 4 *d.* under 4 pence, ſet this 4 *d.* under the 6 *s.* Then have you yet 3 *l.* 3 *s.* 4 *d.* wanting of your Sum, which look for in the Columns againſt 1000, and you ſhall find 3 *l.* 2 *s.* 6 *d.* (which is but 10 *d.* more in the whole) to ſtand againſt 1000, in the Column that hath 3 Farthings over it, wherefore ſet 3 *q.* under the two other Sums, and add them together, and you ſhall find their Sum to be 6 *s.* 4 *d.* 3 *q.* At which rate you may ſell your Books, and have 30 *l.* in the 100 *l.* profit for your Money.

Example.

Example.

		l.			l.	s.	d.	q.
1000	at	300			0	6	0	0
		16	13	4	0	6	4	0
		3	2	6	0	0	0	0
		319	15	10	0	6	4	3

A

TABLE

OF

The Aſſiſe of Bread.

According to *Troy Weight* and *Averdupoiſe Weight* alſo, ready caſt up, and as it ought to be made both by *Free Bakers* and *Forreigners.*

A Table of the Assize of Bread by Troy Weight

The Price of the Bushel of Wheat for Free Town Bakers.

12 Ounces in one Pound.	The Weight of a Peny Loaf						20 Peny Weight in an Ounce.
	White		Wheaten		Houshold		
s. d.	Ou.	Pe. W	Ou.	Pe. W	Ou.	Pe. W	s. d.
2 0	15	07	23	01	30	15	2 3
3	14	02	21	03	28	04	6
6	13	00	19	10	26	00	9
9	12	01	18	02	24	03	3 0
3 0	11	05	16	18	22	11	3
3	10	11	15	17	21	03	6
6	9	19	14	18	19	18	9
9	9	08	14	02	18	16	4 0
4 0	8	18	13	07	17	16	3
3	8	09	12	13	16	18	6
6	8	01	12	01	16	02	9
9	7	13	11	10	15	07	5 0
5 0	7	07	11	00	14	14	3
3	7	01	10	11	14	02	6
6	6	15	10	03	13	10	9
9	6	10	9	15	13	00	6 0
6 0	6	05	9	08	12	10	3
3	6	00	9	01	12	01	6
6	5	16	8	15	11	03	9
9	5	12	8	09	11	05	7 0
7 0	5	09	8	03	10	18	3
3	5	05	7	18	10	11	6
6	5	02	7	13	10	05	9
9	4	19	7	09	9	19	8 0
8 0	4	16	7	05	9	08	3
3	4	14	7	01	9	02	6
6	4	11	6	17	8	18	9
9	4	9	6	13	8	13	9 0
9 0	4	6	6	10	8	09	3
3	4	4	6	06	8	05	6
6	4	2	6	03	8	00	9
9	4	0	6	00			10 0

The Price of the Bushel of Wheat for Forreigners.

A Table of the Assize of Bread by Avoir-du-poiz Weight.

16 Ounces to the Pound.	The Weight of a Peny Loaf: White		Wheaten		Houshold.		16 Drams in one Ounce.
s. d.	Ou.	Drag.	Ou.	Drag.	Ou.	Drag.	s. d.
2 0	16	13	25	04	33	11	2 3
3	15	07	23	03	30	14	6
6	14	04	21	06	18	08	9
9	13	03	19	13	26	07	3 0
3 0	12	05	18	08	24	11	3
3	11	09	17	05	23	03	6
6	10	14	16	05	21	13	9
9	10	05	15	07	20	09	4 0
4 0	9	12	14	10	19	08	3
3	9	04	13	14	18	08	6
6	8	13	13	04	17	10	9
9	8	07	12	15	16	14	5 0
5 0	8	01	12	01	16	02	3
3	7	11	11	09	15	07	6
6	7	06	11	02	14	13	9
9	7	02	10	11	14	04	6 0
6 0	6	14	10	04	13	11	3
3	6	10	9	15	13	04	6
6	6	06	9	09	12	12	9
9	6	03	9	04	12	05	7 0
7 0	5	15	8	15	11	15	3
3	5	12	8	11	11	05	6
6	5	09	8	06	11	03	9
9	5	07	8	03	10	14	8 0
8 0	5	04	7	15	10	09	3
3	5	02	7	12	10	05	6
6	5	00	7	08	10	00	9
9	4	14	7	05	9	12	9 0
9 0	4	12	7	02	9	08	3
3	4	10	6	15	9	04	6
6	4	08	6	12	9	00	9
9	4	06	6	10	8	13	10 0

Price of the Bushel of Wheat for Free Town Bakers.

Price of the Bushel of Wheat for Forreigners.

The Use of the Table is Easie.

FOr if you find the Price of the Bushel of Wheat in the first Column (on the left hand for Free Bakers, or on the right hand for Forreigners) right against the Price in the same Line, you shall have the Weight of the Peny White, Wheaten and Houshold Loafe, So

When the Price of Wheat is 7 s. 3 d. the Bushel, the Peny

		Troy W. Ou.	Pe W.	Avordupois Ou.	Drag.
White	Loafe	5	5	5	12
Wheaten	shall	7	18	8	11
Houshold	Weigh of	10	11	11	6

for Free Bakers.

But for Forreigners when Wheat is at the same Price, their Loaves shall Weigh

	Ou.	Pe W.	Ou.	Drag.
White	5	9	5	15
Wheaten	8	3	8	15
Houshold	10	18	11	15

A Table ſhewing the Price of one Pound, of any Commodity, according to the Great Hundred; *viz.* 112 l. to the Hundred:

Whereby

If the Price of the Great Hundred be known, the Price of one Pound is immediately found:

And

If the Price of one Pound be known, the Price of the Great Hundred is as ſoon found:

And that

From one Farthing the Pound, *&c.*

To

32 Pence or 2 s. 8 d. the Pound, *&c.*

Price of one li.		Price of the Hundred or 112. li.			Price of one li.		Price of the Hundred or 112. li.		
d.	q.	l.	s.	d.	d.	q.	l.	s.	d.
0	0	0	0	0	6	0	2	16	0
	1	0	2	4		1	2	18	4
	2	0	4	8		2	3	0	8
	3	0	7	0		3	3	3	0
1	0	0	9	4	7	0	3	5	4
	1	0	11	8		1	3	7	8
	2	0	14	0		2	3	10	0
	3	0	16	4		3	3	12	4
2	0	0	18	8	8	0	3	14	8
	1	1	1	0		1	3	17	0
	2	1	3	4		2	3	19	4
	3	1	5	8		3	4	1	8
3	0	1	8	0	9	0	4	4	0
	1	1	10	4		1	4	6	4
	2	1	12	8		2	4	8	8
	3	1	15	0		3	4	11	0
4	0	1	17	4	10	0	4	13	4
	1	1	19	8		1	4	15	8
	2	2	2	0		2	4	18	0
	3	2	4	4		3	5	0	4
5	0	2	6	8	11	0	5	2	8
	1	2	9	0		1	5	5	0
	2	2	11	4		2	5	7	4
	3	2	13	8		3	5	9	8

Price of one li.		Price of the Hundred or 112. li.			Price of one li.		Price of the Hundred or 112. li.		
d.	q.	l.	s.	d.	d.	q.	l.	s.	d.
12	0	5	12	0	18	0	8	8	0
	1	5	14	4		1	8	10	4
	2	5	16	8		2	8	12	8
	3	5	19	0		3	8	15	0
13	0	6	1	4	19	0	8	17	4
	1	6	3	8		1	8	19	8
	2	6	6	0		2	9	2	0
	3	6	8	4		3	9	4	4
14	0	6	10	8	20	0	9	6	8
	1	6	13	0		1	9	9	0
	2	6	15	4		2	9	11	4
	3	6	17	8		3	9	13	8
15	0	7	0	0	21	0	9	16	0
	1	7	2	4		1	9	18	4
	2	7	4	8		2	10	0	8
	3	7	7	0		3	10	3	0
16	0	7	9	4	22	0	10	5	4
	1	7	11	8		1	10	7	8
	2	7	14	0		2	10	10	0
	3	7	16	4		3	10	12	4
17	0	7	18	8	23	0	10	14	8
	1	8	1	0		1	10	17	0
	2	8	3	4		2	10	19	4
	3	8	5	8		3	11	1	8

Price of one li.		Price of the Hundred or 112. li.		
d.	q.	l.	s.	d.
24	0	11	4	0
	1	11	6	4
	2	11	8	8
	3	11	11	0
25	0	11	13	4
	1	11	15	8
	2	11	18	0
	3	12	0	4
26	0	12	2	8
	1	12	5	0
	2	12	7	4
	3	12	9	8
27	0	12	12	0
	1	12	14	4
	2	12	16	8
	3	12	19	0
28	0	13	1	4
	1	13	3	8
	2	13	6	0
	3	13	8	4
29	0	13	10	8
	1	13	13	0
	2	13	15	4
	3	13	17	8

Price of one li.		Price of the Hundred or 112. li.		
d.	q.	l.	s.	d.
30	0	14	0	0
	1	14	2	4
	2	14	4	8
	3	14	7	0
31	0	14	9	4
	1	14	11	8
	2	14	14	0
	3	14	16	4
32	0	14	18	8
	1	15	1	0
	2	15	3	4
	3	15	5	8
33	0	15	8	0
	1	15	10	4
	2	15	12	8
	3	15	15	0
34	0	15	17	4
	1	15	19	8
	2	16	2	0
	3	16	4	4
35	0	16	6	8
	1	16	9	0
	2	16	11	4
	3	16	13	8

The Use of this Table.

IF you buy any thing by the Hundred, (which is 112 *l.*) you may know what it cost by the Pound; or if you buy any Commodity at so much the Pound, you may know the price of the Hundred.

Example 1. *At* 4 d. 3 q. *the Pound, what is that the great Hundred?*

Look in the Table for 4 *d.* 3 *q.* in the first Column, and against it in the second, you shall find 2 *l.* 4 *s.* 4 *d.* and so much will 112 *l.* cost.

Example 2. *If a hundred Weight cost* 4 *l.* 1 *s.* 8 *d. what is that the Pound?*

Look in the Table for 4 *l.* 1 *s.* 8 *d.* in the second Column, and right against it in the first Column, you shall find 8 *d* 3 *q.* and so much it is by the Pound.

Example 3. *One buyes a hundred weight of a Commodity for* 4 l. 1 s. 8 d. *which he retails again at* 10 d. *the Pound, what doth he get by selling the hundred weight?*

A hundred weight at 10 *d.* the Pound, comes to 4 *l.* 13 *s.* 4 *d.* from which take 4 *l* 1 *s.* 8 *d* there remains 11 *s.* 8 *d.* and so much doth the Retailer gain in the selling his hundred weight.

Example

Example 4. *A Retailer buyes* 112 *Pounds or Yards*, &c. *of any Commodity, for which he paid* 8 l. 12 s. 8 d. *in the selling whereof, he is resolved to gain* 5 l. *At what rate must he sell his Commodity by the Pound to gain* 5 l. *in the selling of the* 112.

To 8*l* 12*s*. 8*d*. (the rate which the Commodity cost) add, 5*l*. the sum that he will gain, and the sum will be 13*l*. 12*s*. 8*d*. which sum (or the neerest to it) find in the Table, which neerest sum you shall find to be 13 *l*. 13*s*. against which sum there stands 29*d*. 1*q*. which is 2*s*. 5*d*. 1*q*. And at that price must he sell his Commodity by the Pound or Yard, *&c.* to gain 5*l*. in the selling of all his Commodity, and get one Groat besides.

Many other uses may be made of this Table, of good Use not only by Retailors but other Buyers, Sellers, or Barterers also.

A Table

A Table of Expences or Wages, ſhewing by what you ſpend or pay by the Day, it comes to by the Week, Moneth, or Year.

		By the Week.			
		l.	s.	d.	q.
Farthings by the Day, is	1	0	0	1	3
	2	0	0	3	2
	3	0	0	5	1
Pence by the Day, is	1	0	0	7	0
	2	0	1	2	0
	3	0	1	9	0
	4	0	2	4	0
	5	0	2	11	0
	6	0	3	6	0
	7	0	4	1	0
	8	0	4	8	0
	9	0	5	3	0
	10	0	5	10	0
	11	0	6	5	0
Shillings by the Day, is	1	0	7	0	0
	2	0	14	0	0
	3	1	1	0	0
	4	1	8	0	0
	5	1	15	0	0
	6	2	2	0	0
	7	2	9	0	0
	8	2	16	0	0
	9	3	3	0	0
	10	3	10	0	0
	11	3	17	0	0
	12	4	4	0	0
	13	4	11	0	0
	14	4	18	0	0
	15	5	5	0	0
	16	5	12	0	0
	17	5	19	0	0
	18	6	6	0	0
	19	6	13	0	0
	20	7	0	0	0

		By the month.			By the Year.		
		li.	sh.	d.	li.	sh.	d.
Farthings by the Day, is	1	0	0	7	0	7	7
	2	0	1	2	0	15	2
	3	0	1	9	1	02	9
Pence by the Day, is	1	0	2	4	1	10	05
	2	0	4	8	3	00	10
	3	0	7	0	4	11	03
	4	0	9	4	6	01	08
	5	0	11	8	7	12	01
	6	0	14	0	9	02	06
	7	0	16	4	10	12	11
	8	0	18	8	12	03	04
	9	1	01	0	13	13	09
	10	1	03	4	15	04	02
	11	1	05	8	16	14	09
Shillings by the Day, is	1	1	08	0	18	05	00
	2	2	16	0	36	10	00
	3	4	04	0	54	15	00
	4	5	12	0	73	00	00
	5	7	00	0	91	05	00
	6	8	08	0	109	10	00
	7	9	16	0	127	15	00
	8	11	04	0	146	00	00
	9	12	12	0	164	05	00
	10	14	00	0	182	10	00
	11	15	08	0	215	15	00
	12	16	16	0	219	00	00
	13	18	04	0	237	05	00
	14	19	12	0	255	10	00
	15	21	00	0	273	15	00
	16	22	08	0	292	00	00
	17	23	16	0	310	05	00
	18	25	04	0	328	10	00
	19	26	12	0	346	15	00
	20	28	00	0	365	00	00

The Description and Use of th Table.

THE Table Consists of four Columns, i the first is Farthings, Pence, and Shilling by the Day, and the other three are the sam by the Week, Moneth and Year.

Examples,

I. *What will 7 Pence by the Day amoun unto in the Week, Moneth, and Year?*

Look for 7 *d.* in the first Column, and righ against it in the second you shall find 4 *s.* 1 *d* by the Week: in the third 16 *s.* 4 *d.* by th Moneth: and in the fourth 10 *l.* 12 *s.* 11 *d* by the Year.

And so may you find, that at

		Weeks,			Moneth,			Year.	
3 *d.*	By the Day, will be by the	0	1	9	0	7	0	4	11
10 *d.*		0	5	10	1	3	4	15	4
4 *s*		1	8	0	5	12	0	73	0
9 *s.*		3	3	0	12	12	0	164	5
15 *s.*		5	5	0	21	0	0	273	11
19 *s.*		6	13	0	26	12	0	346	15

II. I

II. *If I allot my self* 13 l. 13 s. 4 d. *for idle Expences in the Year, how much may I spend every Day (one day with another) to make even at the Years end.*

Look in the Table under the Title of by the Year, for 13 l. 13 s. 4 d. (or the neerest sum thereunto, which you shall find to be 13 l. 13 s. 9 d.) and right against it you shall find 9 d. and so much you may spend in every day in the year, and be but 5 d. more than your allowance out at the years end.

III. *If I have an Income of* 310 l. 5 s. per Annum, *how much may I spend in the Week, and reserve to my self Annually* 60 l.

First, from your Annuity 310 l. 5 s. substract 60 l. the remainder will be 250 l. 5 s.
Secondly, Look in the Table under the Title of Years, for 250 l. (or the neerest sum thereunto) which you shall find to be 255 *l.* 10 *s.* right against which under the Title of Weeks you shall find 4 *l.* 18 *s.* and so much may you spend every Week, and reserve 60 l. *per Annum* out of your Annuity, only 5 *l.* 5 *s.* in whole Year must be Exempted; but the next

Sum less then 250 *l.* 5 *s.* is 237 *l.* 5 *s.* against which, you shall find 4 *l.* 11 *s.* and so much may you spend Weekly, and reserve at the Years end 73 *l.*

These and many other good Uses may be made of this Table, which will be obvious to all inteligible Persons, and so I shall forbear to give more Examples, but conclude with these few brief Rules in plain Rhime, the better to bring them to the Memory when the Table may be wanting.

Rule I.

Compute the Pence but of one dayes Expence,
And so many Pounds, Angels, Groats, and Pence
Are spent in one Whole Years Circumference.

Rule II.

One Weeks Expence in Farthings makes appear
The Pence and Shillings expended in a Year.

The Conclusion.

The sincere Man's Supplication.

Excess of wealth, great powerful God,
I do not wish to see;
Extreams of Want and Poverty
Afflict not Lord on me.
For since the one exalts too high,
The other brings too low;
A Mean therefore, for Natures need,
Great King of Kings bestow.

A *TABLE* shewing the beginning of every Kings Raign from the *Conquest*, together with the Year of *Christ*, answering to every year of each Kings Raign, the years beginning at the 25 of *March*.

William *the* Conquerour *began his Raign the* 15 *of* October 1066. *and therefore had Raigned one year compleat*, Octob. 15. 1607.

An. Reg.	*An. Dom.*
1	1067
2	1068
3	1069
4	1070
5	1071
6	1072
7	1073
8	1074
9	1075
10	1076
11	1077
12	1078
13	1079
14	1080
15	1081
16	1082
17	1083
18	1084
19	1085
20	1086

10 *Moneths*, 21 *Dayes*.
His Raign ended the 9th *of* Sept. 1087.

William Rufus *began his Reign* Septemb. 9*th.* 1087.

An. Reg.	*An. Dom.*
1	1088
2	1089
3	1090
4	1091
5	1092
6	1093
7	1094
8	1095
9	1096
10	1097
11	1098
12	1099

11 *Moneths* 18 *Dayes.*

Hen. 1. Aug. 1. 1100

An. Reg.	*An Dom.*
1	1101
2	1102
3	1103
4	1104
5	1105
6	1106
7	1107
8	1108
9	1109
10	1110
11	1111
12	1112
13	1113
14	1114
15	1115
16	1116
17	1117
18	1118
19	1119
20	1120
21	1121
22	1122
23	1123
24	1124
25	1125
26	1126
27	1127
28	1128
29	1129
30	1130
31	1131
32	1132
33	1133
34	1134

35 1135
4 *Moneths*, 12 *Dayes.*

Steph. *Dec.* 2 1135

An. Reg.	*An. Dom.*
1	1136
2	1137
3	1138
4	1139
5	1140
6	1141
7	1142
8	1143
9	1144
10	1145
11	1146
12	1147
13	1148
14	1149
15	1150
16	1151
17	1152
18	1153

11 *Moneths*, 20 *Dayes*

Hen 2, Oct. 25. 1154

An. Reg.	*An. Dom.*
	1155
2	1156
3	1157
4	1158
5	1159
6	1160
7	1161
8	1162
9	1163
10	1164
11	1165
12	1166
13	1167
14	1168
15	1169
16	1170
17	1171
18	1172
19	1173
20	1174
21	1175
22	1176
23	1177
24	1178
25	1179
26	1180
27	1181
28	1182
29	1183
30	1184

31 1185
32 1186
33 1187
34 1188
9 *Monthes*, 5 *Dayes*.

Rich. 1. July 9. 1189

An. Reg.	*An. Dom.*
1	1190
2	1191
3	1192
4	1193
5	1194
6	1195
7	1196
8	1197
9	1198

9 *Moneths*, 19 *dayes*.

John *Apr*. 6. 1199

An. Reg.	*An. Dom.*
1	1200
2	1201
3	1202
4	1203
5	1204
6	1205
7	1206
8	1207
9	1208
10	1209
11	1210
12	1211
13	1212
14	1213
15	1214
16	1215
17	1216

7 *Moneths*, 0 *Dayes*.

Hen. 3. *Oct*. 19. 1216.

An. Reg.	*An. Dom.*
1	1217
2	1218
3	1219
4	1220
5	1221
6	1222
7	1223
8	1224
9	1225
10	1226
11	1227
12	1228
13	1229
14	1230
15	1231

16	1232	45	1261
17	1233	46	1262
18	1234	47	1263
19	1235	48	1264
20	1236	49	1265
21	1237	50	1266
22	1238	51	1267
23	1239	52	1268
24	1240	53	1269
25	1241	54	1270
26	1242	55	1271
27	1243	56	1272
28	1244	1 *Moneth,*	0 *Dayes.*
29	1245		
30	1246	Ed 1. *Nov.*16.	1272.
31	1247	*An. Reg.*	*An. Dom.*
32	1248	1	1273
33	1249	2	1274
34	1250	3	1275
35	1251	4	1276
36	1252	5	1277
37	1253	6	1278
38	1254	7	1279
39	1255	8	1280
40	1256	9	1281
41	1257	10	1282
42	1258	11	1283
43	1259	12	1284
44	1260	13	1285

14	1286
15	1287
16	1288
17	1289
18	1290
19	1291
20	1292
21	1293
22	1294
23	1295
24	1296
25	1297
26	1298
27	1299
28	1300
29	1301
30	1302
31	1303
32	1304
33	1305
34	1306

8 *Moneths*, 9 *Dayes.*

Edw. 2. July 7. 1307

An. Reg.	*An. Dom*
1	1308
2	1309
3	1310
4	1311
5	1312
6	1313
7	1314
8	1315
9	1316
10	1317
11	1318
12	1319
13	1320
14	1321
15	1322
16	1323
17	1324
18	1325
19	1326

7 *Moneths*, 9 *Dayes*

Ed. 3. *Jan.* 25. 1326

An. Reg.	*An. Dom.*
1	1327
2	1328
3	1329
4	1330
5	1331
6	1332
7	1333
8	1334
9	1335
10	1336

11

11	1337
12	1338
13	1339
14	1340
15	1341
16	1342
17	1343
18	1344
19	1345
20	1346
21	1347
22	1348
23	1349
24	1350
25	1351
26	1352
27	1353
28	1354
29	1355
30	1356
31	1357
32	1358
33	1359
34	1360
35	1361
36	1362
37	1363
38	1364
39	1365
40	1366
41	1367
42	1368
43	1369
44	1370
45	1371
46	1372
47	1373
48	1374
49	1375
50	1376

5 *Monethi,* 7 *Dayes.*

R. 2. *June* 21. 1377

An. Reg.	*An. Dom.*
1	1378
2	1379
3	1380
4	1381
5	1382
6	1383
7	1384
8	1385
9	1386
10	1387
11	1388
12	1389
13	1390
14	1391

15

15	1392
16	1393
17	1394
18	1395
19	1396
20	1397
21	1398
22	1399

3 *Moneths*, 14 *Dayes*

Hen. 4. *Sep.* 29. 1399

An. Reg.	*An. Dom.*
1	1400
2	1401
3	1402
4	1403
5	1404
6	1405
7	1406
8	1407
9	1408
10	1409
11	1410
12	1411
13	1412

6 *Moneths*, 3 *Dayes.*

H. 5. *Mar.* 20. 1412.

An. Reg.	*An. Dom.*
1	1413
2	1414
3	1415
4	1416
5	1417
6	1418
7	1419
8	1420
9	1421

5 *Moneths*, 24 *Dayes.*

Hen 6. *Aug.* 31. 1422.

An. Reg.	*An. Dom.*
1	1423
2	1424
3	1425
4	1426
5	1427
6	1428
7	1429
8	1430
9	1431
10	1432
11	1433
12	1434
13	1435

14

14	1436	Edw. 4. *Mar* 4. 1460.	
15	1437		
16	1438	*An. Reg.*	*An. Dom.*
17	1439	1	1461
18	1440	2	1462
19	1441	3	1463
20	1442	4	1464
21	1443	5	1465
22	1444	6	1466
23	1445	7	1467
24	1446	8	1468
25	1447	9	1469
26	1448	10	1470
27	1449	11	1471
28	1450	12	1472
29	1451	13	1473
30	1452	14	1474
31	1453	15	1475
32	1454	16	1476
33	1455	17	1477
34	1456	18	1478
35	1457	19	1479
36	1458	20	1480
37	1459	21	1481
38	1460	22	1482
6 *Moneths,*	16 *Dayes.*	1 *Moneth,*	8 *Dayes.*

R. 3. *June* 22. 1483.

An. Reg.	*An. Dom.*
1	1484
2	1485

2 *Moneths*, 5 *Dayes.*

Hen. 7. *Aug.* 23, 1485

An. Reg.	*An. Dom.*
1	1486
2	1487
3	1488
4	1489
5	1490
6	1491
7	1492
8	1493
9	1494
10	1495
11	1496
12	1497
13	1498
14	1499
15	1500
16	1501
17	1502
18	1503
19	1504
20	1505
21	1506
22	1507
23	1508

8 *Moneths*, 19 *Dayes.*

Hen.8. *Apr* 23. 1509.

An. Reg.	*An. Dom.*
1	1510
2	1511
3	1512
4	1513
5	1514
6	1515
7	1516
8	1517
9	1518
10	1519
11	1520
12	1521
13	1522
14	1523
15	1524
16	1525
17	1526
18	1527
19	1528
20	1529
21	1530
22	1531

23	1532
24	1533
25	1534
26	1535
27	1536
28	1537
29	1538
30	1539
31	1540
32	1541
33	1542
34	1543
35	1544
36	1545
37	1546

10 *Moneths*, 1 *Day*.

Edw.6 *Jan.* 28. 1546

An. Reg.	*An. Dom.*
1	1547
2	1548
3	1549
4	1550
5	1551
6	1552

5 *Moneths*, 19 *Dayes*

Mar. *July* 6. 1553.

An. Reg.	*An. Dom.*
1	1554
2	1555
3	1556
4	1557
5	1558

4 *Moneths* 22 *Dayes*.

Eliz. *Nov.* 17. 1558.

An. Reg.	*An. Dom.*
1	1559
2	1560
3	1561
4	1562
5	1563
6	1564
7	1565
8	1566
9	1567
10	1568
11	1569
12	1570
13	1571
14	1572
15	1573
16	1574
17	1575

18

18	1576	Jac. *Mar.* 24. 1602.	
19	1577		
20	1578	*An. Reg.*	*An. Dom.*
21	1579	1	1603
22	1580	2	1604
23	1581	3	1605
24	1582	4	1606
25	1583	5	1607
26	1584	6	1608
27	1585	7	1609
28	1586	8	1610
29	1587	9	1611
30	1588	10	1612
31	1589	11	1613
32	1590	12	1614
33	1591	13	1615
34	1592	14	1616
35	1593	15	1617
36	1594	16	1618
37	1595	17	1619
38	1596	18	1620
39	1597	19	1621
40	1598	20	1622
41	1599	21	1623
42	1600	22	1624
43	1601		
44	1602		
		0 *Moneths*, 3 *Dayes.*	
4 *Moneths*, 15 *Dayes*			

Car,

Car. 1. Mar. 27. 1625

An. Reg.	*An. Dom.*
1	1625
2	1626
3	1627
4	1628
5	1629
6	1630
7	1631
8	1632
9	1633
10	1634
11	1635
12	1636
13	1637
14	1638
15	1639
16	1640
17	1641
18	1642
19	1643
20	1644
21	1645
22	1646
23	1647
24	1648

King *Charles* died the 30 of *Jan.* 1648. having Raigned 11

Moneths above 24 Years according to 28. days *per mensem.*

Car. 2. *Jan.* 30. 1648

An. Reg.	*An. Dom.*
1	1649
2	1650
3	1651
4	1652
5	1653
6	1654
7	1655
8	1656
9	1657
10	1658
11	1659
12	1660
13	1661
14	1662
15	1663
16	1664
17	1665
18	1666
19	1666
20	1667
21	1668
22	1670
23	1671

24	1672	27	1675
25	1673	28	1676
26	1674		

THE

THE DESCRIPTION and USE OF THE PERPETUAL Almanack.

INGRAVEN in the TITLE of the following COPY BOOK.

The Almanack *Described.*

ON either side of the Square which contains the *Almanack* (and hath at the head thereof the names of the *Moneths* of the *year* expressed) in two Columns, is shewed the *Dominical Let-*

ter, or Letters for any year from 1660 to 1687, and by repeating the years again for 28 years more, and so on for ever; by the which 2 Columns, one having at the head thereof written the *Dominical Letter*, and over the other the *Year of our Lord.*

Between these Two Columns is contained the *Perpetual Almanack*, which consists of seven Columns, or Rowes; over the First of which (towards the Left hand) is written *April*, *July*: over the Second *September*, *December*, over the Third, *June* only: over the Fourth, *March*, *November*, and *February*: over the Fifth, *August* only: over the Sixth, *May* only: and over the Seventh, *January* and *Octoter*.

In the five Ranks or Lines under the names of the moneths, are placed the dayes of the moneth, orderly in a succession, by 1, 2, 3, 4 5, 6, 7; then 8, 9 10, &c. to 31.

Under these five Ranks of Numbers you have two other Ranks, in the uppermost whereof you have the seven Dominical Letters *G F*, *E*, *D*, *C*, *B*, *A*; and under them the first Letter for each day of the Week as *S*, *M*, *T*, *W*, *T*, *F*, *S* in this order.

Dominica

Dominical Letter —— *G, F, E, D, C, B, A.*

Day of the Week ——*S, M, T, W, T, F, S,*

Let this ſuffice for the Deſcription, now follows,

The uſe of the Perpetual Almanack.

The uſes of this Almanack are ptincipally Two,

1. *The Moneth and day of the Week being known, to find the day of the Moneth.*

2. *The day of the Moneth being known, to find what day of the Week it is, and that for any time* paſt, *or to* come.

But before either of theſe can be known, you muſt firſt find the *Dominical Letter* for the Year; which may be found as followeth;

I. *To find the* Dominical Letter *for any Year?*

FInd the Year of the Lord in one of the Columns on either side of the Almanack, having *Year of our Lord* written over it, and in the Column thereunto adjoyning you shall find the Dominical or Sunday Letter for that year.

Example, *I would know what the* Dominical Letter *will be in the year of our Lord* 1675.

I look for the year 1675 in the side of the *Almanack*, and in the Column thereunto adjoyning, I find *C*, which is the Dominical or Sunday Letter for that year 1675, and so may you find it for the Year of our Lord 1682 to be *A*, and for the Year 1668 to be *E* and *D*, it being Leap Year, for every *Leap Year* hath two *Dominical Letters*; the first of them (viz. *E*) serving from the first of *January* to the 25 of *February*, and latter of them (viz. *D*) to the end of the Year.

II. *To*

II. *To find the day of the Moneth.*

Having (as before) found the *Dominical Letter* for the Year 1675 to be *C*, look for *C* in the Rank of *Dominical Letters* under the Almanack, and in the Rank of *dayes of the Week* (under *C*,) you ſhall find *T* for *Thurſday*, and the name of the moneth over *T*, at the head of the *Almanack* is *Auguſt*, and all the figures under *Auguſt* (as 5, 12, 19, and 26,) are *Thurſdays* that year 1675, when the Dominical Letter was C: And ſo conſequently,

	1	8	15	22	29		*April* & *July*,
	2	9	16	23	30		*Septemb.* & *December*
	3	10	17	24	31		*June*,
The	4	11	18	25		Of	*Mar. Novemb.* & *Feb.*
	5	12	19	26			*Auguſt*,
	6	13	20	27			*May*,
	7	14	21	28			*January* & *October*,

are all of them *Thurſdays* for that year.

And thus by knowing (*any year*) what day of the week every month begins with, it is eaſie to know any day of the week what day of the moneth it is. For

April or *July* be *Thursday*,

The	9 10 11 12 13 14	is	*Friday* *Saturday* *Sunday* *Monday* *Tuesday* *Wednesday*

III. *The day of the Moneth being known, to find what day of the Week it is.*

Quest. *What day of the Week will the 12th. of* April *or* July *be, in the Year* 1675?

By the first Use of the *Almanack* you found the Dominical Letter was C; by the Second Use you found that the 8*th* day was *Thursday*, then the 9*th*. must be *Friday*, the 10*th*. *Saturday*; the 11*th*. *Sunday*, and the 12*th*. *Monday*.

FINIS.

THE CLERK'S TUTOR for Writing

March

Dom Letter	Years of our Lord	Apr July	Sep Dec	Jun *	Nov Feb	Aug *	May *	Jan Oct	* *	* *
AG F	1660 1	1	2	3	4	5	6	7	4 5	D C
E D	2 3	8	9	10	11	12	13	14	6 7	BA G
CB A	4 5	15	16	17	18	19	20	21	8 9	F E
G F	6 7	22	23	24	25	26	27	28	1680 1	DC B
ED C	8 9	29	30	31	*	*	*	*	2 3	A G
B A	1670 1	G	F	E	D	C	B	A	4 5	FE D
GF E	2 3	S	M	T	W	T	F	S	6 1687	C B

A perpetuall Almanack

London Printed for Jo: Streater. Ja: Flesher. and Hen: Twyford. Sold in Vine Court Middle Temple. 1667.

Written & Engraven by Edw. Cocker.

Your book, arme, pen, right forward place:
Your breast from board, yo. head vpright:
Your fingers strait; minde every grace:
Move your pen freely, beare it light
Full, small, height, depth, & distance mark
These, with proportions, make a Clerk.

xz

Aa b c d e e f g h i k l m n o p q r s s t v u w x y z &

Amend Betimes wth Constant Diligence; and
Evermore ffollow Good Honest Imploymts:
Know, Love & Magnifie ye Name of Our
Preserver. Quickly Repent yor Sins. Treasure
up Virtue & Wisdome: Expell Yor vices Zealously.

Ars infæcunda est sine usu: et usu temerarius sine Arte.

September ye 10th 1667

Receivd then of Mr John Browne of London Mercer the Summe of one hundred pounds in full of all Accompts from ye beginning of the World to the day of the date hereof. I say recd — li 100.

by me Edmund May

A a b c d e f g h i k l m n o p q r s t v u w x y z

No 177

This Indenture

made the second day of May
in the yeare of our Lord one
thousand six hundred sixty &c

a b c d d e f f g h k h i k l m n o p
q r r s s s t v u w x y y 3 z p

A B C D E F G H

I K L M N O P Q

R S T V W X Y Z

a b c d e f ſ g h i k l m n o p q r ꝛ s t v u w x y z

A B C D E F G H I K L

M N O P Q R S T V W X Y Z

a b c d e f g h i k l m n o p q r s t u v w x y z

Amos Bonyse Cantell Davit Emon Ffordell Gonsalve Hamet Jacobus Kemp Lucas Martyn
Noell Ozias Pobyns Quintin Robtus Samuel Tobias Vernon Wyllyam Xerxes Yacob Zoroes

A a a B b C c c D d E e e ff f G g g H h h I i ij K l M

m n m N [illegible] O o oo P p [illegible] p p p [illegible] Q q

q R quo R r z oz S s s st ss st T t t V v u W y y z

Carolus secundus dei gratia Anglie Scocie ffrancie et hibernie [illegible] fidei x

defensor etc. Thome Senhatyn salutem Quibusdam certis [illegible] x

causis coram nobis in Cancellaria nostra propositis tibi precipimus firmiter [illegible]

A a B C D d E F G H h I i ij K L M m

P p Q R r S s s T v u W w x y z

70